शताब्दी के उपलक्ष्य में

आत्मिक-उत्क्रान्ति

प्रकाशक—

मुद्रकः—
वैदिक यंत्रालय,
अजमेर.

॥ ओ३म् ॥

आत्मिक उन्नति

इस पुस्तक में संकल्पशक्ति, जीवन की पवित्रता, पाप निराकरण के उपाय, अन्तःशत्रुओं का पराजय, संसार-ग्राह, माधुर्य्य, सत्य का स्वरूप, स·य २ । त्रैवार्षिक व्रत तथा आत्मिकप्रकाशादि उपयोगी विषयों का वर्णन है ।

लेखक

विश्वनाथ विद्यालङ्कार

पूर्व प्रोफसर विज्ञान, दर्शनशास्त्र तथा वैदिक साहित्य, गुरुकुल काङ्गड़ी

प्रकाशक

चौ० श्रीचन्द्र, मैनेजर

महेशबुकडिपो, घसीटीबाजार, अजमेर

प्रथमवार १००० | सन् १९२५ | मूल्य ।) आने इकट्ठी लेनेवालों को १७) सैकड़ा

अर्थ लाभ

हमारे यहां से प्रकाशित सभी पुस्तकें स्थायी ग्राहकों को पौने मूल्य में दी जाती हैं, जिस की प्रवेश फीस ।।) है जो पहिले जमा कराने पड़ते हैं, अब तक निम्न ग्रन्थ छप चुके हैं:-

(१) ईशोपनिषद् का स्वरूप—यह अन्य सब उपनिषदों का मूल है। इस पर श्री पं० सात्वलेकरजी ने जो व्याख्या की है उसका विद्वत्तापूर्ण खण्डन है और महर्षि श्री स्वामी दयानन्दजी की शैली का इस में युक्ति प्रमाण सहित प्रतिपादन किया गया है। मू० ।=)

(२) विद्यार्थी विनोद—हास्यरसपूरित गल्पें मू० ।–)

(३) कालेज होस्टल—विद्यार्थी जीवन की लीला ।)

(४) ज्ञानसंचय विचार—नाम ही से प्रकट है =)

(५) ब्रह्मयज्ञविधान—सन्ध्या करने की विधि –)

(६) श्री पुष्करराज दर्शन—(तीर्थ गुरु श्री पुष्करजी का संक्षिप्त इतिहास))॥

(७) धर्मशिक्षा—(आर्य्य बालकों की धर्मशिक्षा के लिये प्रथम पुस्तक))॥

(८) आत्मिक उन्नति—आप के हाथ ही में है।

(९) वैदिक जीवन—प्रत्येक वेदानुयायी के देखने योग्य ।॥)

(१०) एक शिक्षाप्रद नाटक ≡)

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१०) रु० से अधिक की खरीदने वालों को २५) रु० सैकड़ा कमीशन मिलेगा।

आत्मिक उन्नति

अर्थात्

वैयक्तिक जीवन की उच्चता के आवश्यक अङ्ग

ब्राह्मणवर्चस की प्राप्ति के उपाय

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(१) *नियमबद्धजीवन*

सूर्यस्यावृतमन्वावर्ते दक्षिणामन्वावृतम् ।
सा मे द्रविणं यच्छतु सा मे ब्राह्मणवर्चसम् ॥

अथर्व० १० । ५ । ३७ ॥

(सूर्यस्य) सूर्य की (आवृतम् †) रीति (अनु) पर (आवर्ते) मैं आता हूं, (* दक्षिणाम्) वृद्धि के (आवृतम्) मार्ग (अनु) पर मैं आता हूं, (सा) वह रीति (मे)

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* दक्षवृद्धौ ॥ † आवर्त्यते इति=नियम ॥

मुझे (*द्रविणम्) बल (†यच्छतु) देवे, (सा) वह (मे) मुझे (‡ब्राह्मणवर्चसम्) सूर्यसम तेज देवे।

भावार्थ:—सूर्य की रीति है—नियम। नियम से सूर्य उदित और नियम से अस्त होता है और नियम से ही ऋतुओं में परिवर्तन लाता है। नियम को यदि हम अपने जीवन में ले लें, तो हम वृद्धि के मार्ग पर पदार्पण करेंगे। और इसमे हमें आत्मिक बल प्राप्त होगा, तथा हम भी सूर्यसम तेजस्वी बनेंगे। आदित्य-ब्रह्मचारी का तेज जो सूर्य सम होता है, उसका कारण उसके जीवन का नियमबद्ध होना ही है। इसीलिये उसे आदित्य-ब्रह्मचारी की संज्ञा मिली है।

(२) *ब्रह्मोपासना*

ब्रह्माभ्यावर्ते। तन्मे द्रविणं यच्छतु तन्मे ब्राह्मणवर्चसम्।
अथर्व० १० । ५ । ४० ॥

(ब्रह्म) ब्रह्म (अभि) की ओर (आवर्ते) मैं आताहूं, (तत्) वह ब्रह्म (मे) मुझे (द्रविणम्) बल (य-

* निघण्टु २ । ६ ॥ † दाण् को यच्छ आदेश ॥
‡ ब्राह्मण=(१) ब्राह्मण वर्ण, (२) ब्रह्म का यह=सूर्य, (३) ब्रह्मैव ब्राह्मणः=ब्रह्म, वर्चस्=दीप्ति या तेज ॥

च्छतु) देवे, (तत्) वह ब्रह्म (मे) मुझे (*ब्राह्मणवर्चसम्) ब्रह्मतेज देवे।

भावार्थः—मैं प्रकृति के रास्ते से हट कर अब ब्रह्म की ओर आता हूं। ब्रह्म मुझे आत्मिक-बल और ब्रह्म-तेज देवे। ब्रह्म के सङ्ग से ब्रह्म के गुण हम में अवश्य आवेंगे, जैसे प्रकृति के संग से प्रकृति के गुण हम में आ जाते हैं। ब्रह्मतेज का ध्यान, उस पर विचार तथा उस की चित्त में उत्कट भावना से हम में भी वह ब्रह्मतेज आता जायगा। ब्रह्म के तेज और सूर्य के तेज में अन्तर है। ब्रह्म का तेज आत्मिक है और सूर्य का तेज प्राकृतिक। आत्मा में ब्रह्म-तेज को स्थापन करना होता है और शरीर में सूर्यतेज को। ब्रह्म की उपासना से ब्रह्मतेज प्राप्त होता है और नियमबद्ध जीवन से सूर्य सम तेज प्राप्त होता है।

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(३) सत्संग

ब्राह्मणां अभ्यावर्ते। ते मे द्रविणं यच्छन्तु ते मे ब्राह्मणवर्चसम्॥ अथर्व० १०।५।४१॥

(ब्राह्मणान्) ब्राह्मणों की (अभि) ओर (आवर्ते)

*ब्रह्मैव ब्राह्मणः, अर्थात् ब्रह्म को भी ब्राह्मण शब्द से कहते हैं।

मैं आता हूं । (ते) वे (मे) मुझे (द्रविणम्) बल (यच्छन्तु) देवें, (ते) वे (मे) मुझे (ब्राह्मणवर्चसम्) ब्रह्म-तेज या अपना तेज देवें ।

भावार्थः—*"ब्रह्मणे ब्राह्मणम्"* यजु० ३०, ५ में ब्रह्मज्ञान की प्राप्ति के लिये ब्राह्मण को प्राप्त करने की आज्ञा दी है । ब्रह्म कहते हैं—वेद और परमात्मा को । अतः ब्राह्मण वे हैं जो वेदों को जानते हैं, वेद पढ़ा सकते हैं, वेदानुकूल आचरण रखते हैं, तथा ब्रह्मवेत्ता हैं । ऐसे ब्राह्मणों का सत्सङ्ग करना चाहिये । ऐसे ब्राह्मणों के सत्सङ्ग से हम में भी (१) वैदिक-तेज, (२) परमात्म-तेज और (३) ब्राह्मण वर्ण का तेज आ जायगा ।

सूर्य सम तेजस्वी बनने की इच्छा

शुक्रोऽसि भ्राजोऽसि । स यथा त्वं भ्राजता भ्राजोऽस्येवाहं भ्राजता भ्राज्यासम् ॥ अथर्व० १७ । १ । २० ॥

हे सूर्य ! (शुक्रः) तू प्रकाशमान् (असि) है, (भ्राजः) तेजःस्वरूप (असि) है । (यथा) जिस प्रकार (त्वम्) तू (सः) प्रत्यक्ष (भ्राजता) तेज के कारण

(भ्राजः) तेजस्वी (असि) है (एवा) इसी प्रकार (अहं) मैं (भ्राजता) तेज के कारण (भ्राज्यासम्) तेजस्वी बनूं।

भावार्थः—सूर्य प्रकाशमान् है, तेजस्वी है। सूर्य का दर्शन कर और सूर्य को आदर्श मान कर अपने आप को भी वैसा ही प्रकाशमान् और तेजस्वी बनाने की दृढ़ इच्छा तथा कोशिश करनी चाहिए। सूर्य का नाम आदित्य भी है। तीसरी कोटि के ब्रह्मचारी का तेज सूर्यसम हो जाता है। इसीलिये उसे आदित्य-ब्रह्मचारी कहते हैं। आदित्य ब्रह्मचर्य ४८ वर्षों का होता है। अतः सूर्यसम प्रकाशमान् तथा तेजस्वी बनने की इच्छा के साथ २ उस का उपाय जो ४८ वर्षों का ब्रह्मचर्य है उसे भी आचरणों में लाना चाहिये।

उच्च कोटि के यशस्वी बनो

यशा इन्द्रो यशा अग्निर्यशाः सोमो अजायत।
यशा विश्वस्य भूतस्याहमस्मि यशस्तमः॥ अथर्व० ६।३९।३॥

(इन्द्रः) सूर्य (यशाः) यशस्वी, (अग्निः) आग (यशाः) यशस्वी और (सोमः) चन्द्रमा (यशाः) यशस्वी (अजायत) हुआ है। (अहम्) मैं (यशाः) यश-

स्वी (अस्मि) हूं, (विश्वस्य) सब (भूतस्य) संसार के बीच (यशस्तमः) अत्यन्त यशस्वी हूं ।

भावार्थः--यशस्वी का अर्थ है यश वाला । यश कोई बुरी वस्तु नहीं । अपयश अवश्य बुरा है । प्रत्येक मनुष्य को यश प्राप्त करने की कोशिश करनी चाहिए । परमात्मा के लिये वेद में कहा है "*यस्य नाम महद्यशः*" यजु० ३२, ३ । अर्थात् परमात्मा का बड़ा यश है । परन्तु स्मरण रखना चाहिये कि यश "धर्म और सत्कर्मों" का फल है । अधर्म और असत्कर्मों का फल अपयश है, निन्दा है । यशस्वी होने के लिये असन्मार्गों का अवलम्बन नहीं करना चाहिये ।

मन्त्र में यश की प्राप्ति में सूर्य, आग और चन्द्रमा का दृष्टान्त दिया है । इन के साथ "*अजायत*" अर्थात् जन धातु का प्रयोग किया है । जिस का अभिप्राय है कि सूर्य, आग और चन्द्र जन्म से ही यशस्वी हैं । यह क्यों ? । कारण यह कि (क) ये तीनों प्रकाशस्वरूप हैं (ख) तथा इन का प्रकाश स्वार्थ के लिये नहीं अपितु परार्थ के लिये है । सूर्य इसलिये प्रकाशित नहीं कि सूर्य को अपने लिये प्रकाश चाहिये अपितु इसलिये कि इस का प्रकाश औरों को चाहिये । इस प्रकार सूर्य ने जन्म-काल से ही स्वोपार्जित वस्तु को दूसरों के उपकार के लिये रख छोड़ा है न कि स्वार्थसिद्धि के लिये।

इसी प्रकार आग और चन्द्रमा के सम्बन्ध में भी जानना चाहिये।

संसार में भी उसी व्यक्ति का यश होता है जो (क) प्रकाश मार्ग का अवलम्बन ले, (ख) तथा प्रकाश मार्ग पर चलते हुए उस ने जो भी प्रकाश प्राप्त किया है उस का परोपकार के अर्थ दान करे। दम्भ, द्वेष, कपट, ईर्ष्या, देशद्रोह, मित्रद्रोह, असत्य, नास्तिक्यादि दुर्गुण अन्धकारमार्ग के हैं। प्रेम परोपकार, विद्या, ज्ञान, सदाचार, ब्रह्मचर्य, सत्य आदि सद्गुण प्रकाश मार्ग के हैं।

प्रथम तो मनुष्य स्वयं इस प्रकाश मार्ग का अवलम्बन करे और प्रकाश प्राप्त होने पर उसे फिर औरों को दे। सूर्य आदि स्वयं ही यदि प्रकाशित न हों तो वे अन्यों को प्रकाश कैसे देंगे। इसी प्रकार मनुष्य यदि स्वयं ही अन्धकार में ठोकरें खा रहा है तो वह औरों को इन ठोकरों से कैसे बचा सकता है। अतः वेद आज्ञा देता है कि पहिले तुम (क) स्वयं प्रकाश प्राप्त करो, (ख) और पुनः प्राप्त हुआ प्रकाश दूसरों को दो। इस प्रकार यशस्वी बनो।

यशस्वीपन की हद क्या है ?। इस के लिये वेद में कहा है कि "*विश्वस्य भूतस्य यशस्तमः*" अर्थात् मनुष्य को सारे संसार में सब से अधिक यशस्वी बनना चाहिए। संसार में कोई भी

पदार्थ मनुष्य की अपेक्षा अधिक यशस्वी न होसके। यदि मनुष्य का यश किसी की अपेक्षा कम हो तो वह केवल एक प्रभु की अपेक्षा से। अन्य सब की अपेक्षा तो मनुष्य को ही अधिक यशस्वी होना चाहिये।

प्रत्येक सद्गुण में अत्यन्त यशस्वी बनो

यथेन्द्रो द्यावापृथिव्योर्यशस्वान्। यथाप ओषधीषु यशस्वतीः। एवा विश्वेषु देवेषु वयं सर्वेषु यशसः स्याम॥

अथर्व० ६। ५८। २॥

(यथा) जैसे (इन्द्रः) सूर्य (द्यावापृथिव्योः) द्युलोक और पृथिवी लोक में (यशस्वान्) यश वाला है, (यथा) जैसे (आपः) जल (ओषधीषु) ओषधियों में (यशस्वतीः) यश वाले हैं। (एवा) इसी प्रकार (विश्वेषु) सब (देवेषु) देवों में और (सर्वेषु) हरेक गुण में (वयम्) हम सब (यशसः) यश वाले (स्याम) हों।

भावार्थः—१—इन्द्रः—द्युलोक और पृथिवीलोक में सूर्य अपने प्रकाश और तेज के कारण यशस्वी है।

२—आपः—ओषधियों में जल यशस्वी है। कारण यह कि ओषधियों में जल-रूप-औषध अधिक गुणकारी है। अतः

ओषधियों में जल यशस्वी है। जल-रूप-औषध का प्रयोग जल-चिकित्सा में होता है। तथा विना जल के अन्न ओष-धियों की उत्पत्ति भी सम्भव नहीं। इसलिये भी जल का यश ओषधि-जगत् में है।

३—सूर्य और जल दोनों ही अपने अपने दिव्यगुणों के कारण यश वाले बने हैं। हमें चाहिये कि इन देवों अर्थात् दिव्यगुणों वाले पदार्थों तथा विद्वज्जनों में, हम भी अपने दिव्य गुणों के कारण यश के भागी बनें।। दिव्य गुणों वाले पदा-र्थों में यशस्वी होने का अभिप्राय यह है कि लोक में तेज के दृष्टान्त में सूर्य का, सौम्यगुण के दृष्टान्त में चन्द्र का तथा शान्ति के दृष्टान्त में जल का नाम लिया जाता है। मनुष्य तेज में, सौम्यगुण में तथा शान्ति में इतना प्रसिद्ध होजाय कि उसी को लोग उस उस गुण के उत्कर्ष में दृष्टान्त रूप से पेश किया करें। तब हम कह सकते हैं कि अमुक मनुष्य दि-व्यगुणों वाले पदार्थों में यशस्वी है। विद्वज्जनों में यशस्वी होने का अभिप्राय स्पष्ट ही है।

४—हम यह भी कोशिश करें कि प्रत्येक दिव्यगुण में हमारा नाम यशस्वी हो अर्थात् हम प्रत्येक दिव्यगुण के उत्क-र्ष को प्राप्त करें।

संकल्प शक्ति के गुण

आकूतिं देवीं सुभगां पुरो दधे चित्तस्य माता सुहवा नो अस्तु। यामाशामेमि केवली सा मे अस्तु विदेयमेनां मनसि प्रविष्टाम् ॥ अथर्व० १६।४।२॥

(देवीं) दिव्यगुणों वाली (सुभगां) तथा उत्तम भग को पैदा करने वाली (आकूतिम्) संकल्प-शक्ति को (पुरः) आगे (दधे) मैं धरता हूं, (चित्तस्य) चित्त की (माता) माता अर्थात् जननी रूप वह संकल्प-शक्ति (नः) हमारे लिये (सुहवा) सहज मे बुलाने योग्य (अस्तु) होवे। (याम्) जिस (आशाम्) कामना को (एमि) मैं प्राप्त होऊं (सा) वह (मे) मेरी कामना (केवली) केवल अर्थात् अकेली हो, सङ्कीर्ण न हो, (मनसि) मन में (प्रविष्टाम्) प्रविष्ट हुई (एनाम्) इस संकल्पशक्ति को (विदेयम्) मैं पाऊं।

भावार्थः — ऊपर के मन्त्र में आकूति का वर्णन है। आकूति का अर्थ है संकल्प-शक्ति। मन्त्र में संकल्पशक्ति के विषय में निम्नलिखित बातें कही हैं:—

(१) मनसि प्रविष्टाम्:—संकल्प-शक्ति मन में प्रविष्ट है अर्थात् मन में रहती है। संकल्प-शक्ति मन का धर्म है। अतः मन के संयम से हम संकल्प-शक्ति को अपने वश में कर सकते हैं।

(२) विदेयम्ः—प्रत्येक मनुष्य को संकल्प-शक्ति की प्राप्ति के लिये यत्न करना चाहिये ।

(३) सुहवाः—संकल्प-शक्ति को सुहव बनाना चाहिये। अर्थात् जिस समय चाहें उस संकल्प-शक्ति को हम बुला सकें, उसे चित्त में उपस्थित कर सकें, संकल्पशक्ति भृत्यवत् हमारे वश में होकर रहे । कई मनुष्य ऐसे होते हैं कि उन में संकल्पशक्ति का लगभग अभाव ही होता है । तथा कई ऐसे भी होते हैं जिन में थोड़ी बहुत संकलपशक्ति तो होती है परन्तु यथासमय वे अपने मन में संकलपशक्ति को पैदा नहीं कर सकते । दोनों प्रकार के ये मनुष्य सदाचार तथा कर्तव्य में कमजोर होते हैं ।

(४) केवलीः—मन्त्र में यह भी कहा है कि एक समय में एक ही कामना करो । उस कामना की पूर्ति के लिये अपनी संकल्पशक्ति लगाओ तो कामनासिद्धि अवश्य और शीघ्र होगी । यदि एक ही समय में कई कामनाएं की जाएंगी तो संकल्पशक्ति बंट जायगी और कार्यसिद्धि में उचित सहायता न दे सकेगी । अतः संकल्पशक्ति के अभ्यास करने वाले को चाहिये कि वह अपनी इच्छाओं या कामनाओं का विश्लेषण (Analysis) करे और उन विश्लिष्ट कामनाओं में से प्रथम एक कामना को ले और मन में धारणा करे कि मैंने अमुक

कार्य करना है। इस प्रकार अपना एक लक्ष्य निश्चित कर के उस के लिये संकल्प-शक्ति को लगावे तो वह अवश्य सफल हो जायगा। अभ्यासी के चित्त में यदि बहुत कामनाएं एक दम उठ पड़ेंगी और वह अभ्यासी यदि किसी एक कामना को अपना लक्ष्य न बना सकेगा तो उसकी संकल्प-शक्ति उसकी मदद न कर सकेगी। अतः संकल्प-शक्ति के अभ्यासी को यह अभ्यास अवश्य प्राप्त करना चाहिये कि वह अपनी इच्छाओं, कामनाओं वा आशाओं को केवल अर्थात् व्यक्ति के रूप में पृथक् पृथक् कर सके। अर्थात् अनेक इच्छाओं की युगपत् उपस्थिति में भी वह उन सङ्कीर्ण इच्छाओं को अकेला अकेला कर सके और तत्पश्चात् इस अकेली अकेली इच्छा को अपना लक्ष्य बनावे। इसी सिद्धान्त के दर्शाने के लिये मन्त्र में केवली पद का प्रयोग है।

(५) चित्तस्य माता:—संकल्पशक्ति चित्त की माता है। माता के बिना सन्तति नहीं होती। चित्त को अस्तित्व देने वाली संकल्प-शक्ति ही है। संकल्प-शक्ति के विना चित्त का स्वरूप ही सम्भव नहीं। क्योंकि चित्त के जितने भी गुण धर्म हैं, उन की कार्यक्षमता संकल्प-शक्ति पर ही निर्भर है। उदाहरण के लिए चित्त के एक धर्म अर्थात् ज्ञान को हम लते हैं। ज्ञान की प्राप्ति भी दृढ़ संकल्प पर अवलम्बित है। ज्ञान की प्राप्ति

के लिये कई कष्ट सहने पड़ते हैं। उन कष्टों पर विजय पाना दृढ़ संकल्प-शक्ति वालों का ही काम है। इसी प्रकार चित्त के अन्य गुणधर्मों को भी हम दृष्टान्त रूप से पेश कर सकते हैं और सिद्ध कर सकते हैं कि उन गुणधर्मों की स्थिति संकल्प-शक्ति के विना असम्भव है। इन गुणधर्मों को चित्त से पृथक् कर के यदि सोचा जाय तो चित्त की स्थिति की कोई भी कल्पना मन में उपस्थित नहीं होती। अतः चित्त की स्थिति, चित्त के गुणधर्मों से पृथक् होकर, न के बराबर है। संकल्पशक्ति चूंकि चित्त के गुणधर्मों की माता है, अतः वह चित्त की भी माता कही जाती है।

(६) देवीः—संकल्प-शक्ति देवी है। देवी का अर्थ है दिव्य गुणों वाली। वास्तव में संकल्प-शक्ति में बड़े बड़े दिव्य गुण हैं। संकल्प-शक्ति के द्वारा हम आश्चर्यजनक कामों को कर सकते हैं। संकल्प-शक्ति के प्रभाव को देखने के लिए योग-दर्शन के सिद्धिपाद का अवश्य स्वाध्याय करना चाहिए।

(७) सुभगाः—संकल्प-शक्ति सुभगा है। यह भग को पैदा करती है। भग के ६ अर्थ हैं—ऐश्वर्य, धर्म, यश, श्री, ज्ञान और वैराग्य। इन में से किसी की भी प्राप्ति संकल्प-शक्ति के विना नहीं हो सकती। इसीलिये संकल्प-शक्ति को सुभगा कहा है।

(८) मन्त्र के " पुरोदधे " पदों पर भी ध्यान देना चाहिये। " विदेयम् " और "पुरोदधे" का अभिप्राय एकसा ही है। तो भी कुछ फर्क है। " विदेयम् " पद द्वारा संकल्प-शक्ति की प्राप्ति के लिये केवल इच्छा ही प्रकट की गई है और " पुरोदधे " पद द्वारा उस संकल्प-शक्ति को आगे रखने का प्रण किया गया है। आगे रखने का अभिप्राय यह है कि प्रत्येक कार्य करने के पूर्व दृढ़-संकल्प-शक्ति का प्रयोग किया जाय। यथा 'मैं 'इस कार्य को अवश्य करूंगा' 'इस कार्य को पूरा करने के लिये मुझ में शक्ति अवश्य है' 'मैं इस कार्य में उपस्थित होने वाली सब बाधाओं को हटा सकता हूँ' इत्यादि प्रकार से संकल्पशक्ति को, प्रत्येक कार्य के करने के पूर्व, हम अपने चित्तों में रक्खें। अथवा 'पुरोदधे' का यह भी अभिप्राय हो सकता है कि मैं संकल्प-शक्ति को सर्वदा अपने सामने रखता हूँ। कभी उसे भुलाता नहीं।

(९) संकल्प-शक्ति का थोड़ासा और भी वर्णन हम पाठकों के विचारार्थ रखना चाहते हैं, ताकि पाठकों के चित्त में इस शक्ति का यथार्थ गौरव बैठ सके।

क—संकल्प पद "सम्+क्लृप्" से बनता है। सम् का अर्थ है—अच्छे प्रकार और क्लृप् का अर्थ है सामर्थ्य। संकल्प से मन में अच्छा सामर्थ्य पैदा होजाता है, यह भाव संकल्प पद की रचना से ही सूचित हो रहा है।

ख—शब्दस्तोममहानिधि में संकल्प का लक्षण निम्न-लिखित शब्दों में दिया है "*अभीष्टसिद्धये इदमित्थमेव कार्य-मित्येवरूपे मनसो व्यापारभेदे*" जिस का अर्थ यह है कि "इष्ट वस्तु की सिद्धि के लिये, 'यह इस प्रकार ही करना चाहिये, इस प्रकार मन का जो एक व्यापार विशेष है, उसे संकल्प कहते हैं"। आगे चलकर वही कोप फिर लिखता है "*कर्म-साधनायाभिलापवाक्ये*"। अर्थात् "कर्म की सिद्धि के लिये दृढ़ निश्चय का द्योतक जो एक प्रकार का मानस-कथन है उसे संकल्प कहते हैं"। इसी लिये वेद में इस संकल्प-शक्ति का नाम आकूति दिया है। आकूति पद में जो "कू" धातु है उस का अर्थ है—शब्द करना। मन में जो दृढ़तासूचक वाक्य बोले जाते हैं यथा—'मै ऐसा करूंगा" "यह अवश्य किया जासकता है" इन्हीं का नाम आकूति या संकल्प है।

शब्दस्तोम में और भी लिखा है कि "*मानससंकल्पो द्विविधः, भावाभावविषयभेदात्। तत्राद्यः मयैतत्कर्तव्यमि-त्येवंरूपः, द्वितीयः मयैतन्न कर्तव्यमित्येवंरूपः*"। इस का अभिप्राय यह है कि "मानसिक संकल्प के दो भेद हैं। एक प्रकार के मानसिक संकल्प का विषय भाव रूप है और दू-सरे प्रकार के मानसिक संकल्प का विषय है अभाव रूप। यथा–मुझे अमुक कार्य अवश्य करना चाहिए यह तो भावरूप

संकल्प है और मुझे अमुक कार्य न करना चाहिये यह संकल्प अभाव रूप है। इसीलिये धर्म के भी दो भेद हैं विधिरूप और निषेधरूप। यथा—संध्या करना विधिरूप धर्म है और चोरी न करना निषेधरूप धर्म है।

ग—पद्मपुराण में भी लिखा है कि "संकल्पेन विना राजन् ! यत्किंचित्कुरुते नरः। फलस्याल्पाल्पकं तस्य धर्मस्यार्धक्षयो भवेत् ॥

अर्थः—हे राजन् ! संकल्प के विना मनुष्य जो कुछ भी करता है उस का धर्म आधा रह जाता है, और उस के कार्य का फल भी अल्पाल्प होता जाता है।

कारण क्या ?। कारण यही है कि धर्म दो प्रेरक भावों द्वारा किया जा सकता है। या तो धर्म का गौरव जान कर स्वयं अपनी इच्छा द्वारा और या लोक-लज्जा अथवा लोकैषणा के द्वारा। जब अपनी इच्छा द्वारा धर्म किया जाता है तब तो उस के साथ संकल्प-शक्ति रहती ही है, और इस प्रकार उस धर्मकृत्य का भी उत्तम फल होता है। परन्तु जब यही धर्मकृत्य लोकलज्जा अथवा लोकैषणा से प्रेरित होकर किया जाता है, तब इस धर्मकृत्य के साथ कर्त्ता की वास्तविक इच्छा या संकल्प-शक्ति नहीं होती। इस धर्मकृत्य का करना केवल इस

समय ढोंग मात्र होता है। अतः इस का फल भी उत्तम नहीं हो सकता। यही पद्मपुराण का यहां अभिप्राय है।

घ—लिङ्गार्चनतन्त्र के पांचवें पटल में लिखा है कि—

संकल्पं मानसं देवि! चतुर्वर्गप्रदायकम्।

अर्थः—हे देवि! मन का संकल्प चतुर्वर्ग का साधक है। धर्म, अर्थ, काम और मोक्ष, यह चतुर्वर्ग है। सुभगा पद की व्याख्या का इस के साथ मुकाबिला करो।

ङ—मनुमहाराज ने भी संकल्प की महिमा दर्शाई है। यथाः—

संकल्पमूलः कामो वै यज्ञाः संकल्पसम्भवाः।
व्रतानि यमनियमाश्च सर्वे संकल्पजाः स्मृताः॥

अर्थः—संकल्प, इच्छा-सिद्धि का मूल है, संकल्प से यज्ञ होते हैं। व्रत, यम और नियम भी संकल्पजन्य हैं।

च—इसी प्रकार यजुर्वेद अध्याय ३४ मन्त्र १ से ६ में भी "तन्मे मनः शिवसङ्कल्पमस्तु" द्वारा मानसिक शिवसंकल्पों की प्राप्ति के लिये कहा है। "मैंने संसार भर का दुःख हटाना है" "मैंने पाप कभी नहीं करना" ये तो शिवसंकल्प हैं।

इस से विपरीत "मैंने इसका बदला अवश्य लेना है" "मैं उस को अवश्य सताऊंगा" ये अशिवसंकल्प हैं।

(१०) आकूति = आ+कूञ् (शब्दे)+क्तिन् । अर्थात् अपने चित्त में शब्द उठाने कि "मैं कार्य कर सकता हूं" "यह कार्य उत्तम है" "इसे करना चाहिये" "मेरी शक्ति प्रतिबन्धकों पर अवश्य विजय पा लेगी" ये शब्द संकल्पशक्ति या आकूति के उदाहरण हैं।

(११) आशा=आङः शासु इच्छायाम् । अतः आ-शा का अर्थ है —इच्छा, कामना ।

आशामय जीवन ।

पश्येम शरदः शतम् ॥ १ ॥ जीवेम शरदः शतम् ॥ २ ॥
बुध्येम शरदः शतम् ॥ ३ ॥ रोहेम शरदः शतम् ॥ ४ ॥
पूषेम शरदः शतम् ॥ ५ ॥ भवेम शरदः शतम् ॥ ६ ॥
भूषेम शरदः शतम् ॥ ७ ॥ भूयसीः शरदः शतात् ॥ ८ ॥
अथर्व० १९ । ६७ । १–८ ॥

(शतम्) सौ (शरदः) वर्ष (पश्येम) हम देखते रहें ॥ १ ॥
(शतम्) सौ (शरदः) वर्ष (जीवेम) हम जीते रहें ॥ २ ॥
(शतम्) सौ (शरदः) वर्ष (बुध्येम) हम बोध प्राप्त करते रहें ॥ ३ ॥

(शतम्) सौ (शरदः) वर्ष (रोहेम) हम बढ़ते रहें ॥ ४ ॥
(शतम्) सौ (शरदः) वर्ष (पूषेम) हम पुष्ट होते रहें ॥५ ॥
(शतम्) सौ (शरदः) वर्ष (भवेम) हम बने रहें ॥ ६ ॥
(शतम्) सौ (शरदः) वर्ष (भूषेम) हम देह-भूषा करते रहें ॥७॥
(शतात्) सौ से भी (भूयसीः) अधिक (शरदः) वर्षों तक हम उपरोक्त कार्य करते रहें ।

भावार्थः—(१) आज कल छोटी आयु में ही इन्द्रियां काम देना बन्द कर देती हैं । वेद में लिखा है कि हमारी आंख की शक्ति १०० वर्षों तक बनी रहे ।

(२) वेद का जीवन इतना आशामय है कि वेदों का भक्त १०० वर्षों तक लगातार ज्ञान प्राप्त करते रहने का अभिलाषी है ।

(३) हमारे बढ़ने की शक्ति आजकल लगभग २५ सालों की उम्र तक सीमित है । परन्तु मन्त्र में सौ वर्षों तक निरन्तर बढ़ते जाने का कथन है ।

(४) तथा साथ ही सौ वर्षों तक निरन्तर पुष्टि प्राप्त करते जाने का भी कथन है ।

(५) वेद, मनुष्यों के जीवनों में से आनन्द और मोद

प्रमोद का रस निकाल कर उन्हें सूखी लक्कड़ नहीं बनाना चाहता। इसीलिए ७ वें टुकड़े या मन्त्र में यह इच्छा प्रकट की गई है कि हम सौ वर्ष तक अपना भूषण तथा शोभा-सौन्दर्य स्थिर रक्खें। बल्कि—

(६) भूयसीः अर्थात् सौ वर्षों से अधिक भी उपरोक्त कार्यों को करें। वैदिक धर्म के आशामय जीवन का थोड़ासा नमूना ऊपर के मन्त्रों में दिया है। उनके पढ़ने से पाठकों के चित्तों में उस आशामय जीवन का चित्र अवश्य अङ्कित हो-गया होगा।

जीवन की पवित्रता

पुनन्तु मा देवजनाः पुनन्तु मनवो धिया पुनन्तु विश्वा भूतानि पवमानः पुनातु मा ॥ अथर्व० ६। १९। १ ॥

(देवजनाः) दिव्यगुणों वाले जन (मा) मुझे (पुनन्तु) पवित्र करें, (मनवः) मननशील मनुष्य मुझे (धिया) बुद्धि और कर्म द्वारा (पुनन्तु) पवित्र करें। (विश्वा) सब (भूतानि) भूत (पुनन्तु) मुझे पवित्र करें, (पवमानः) पवित्र परमात्मा (मा) मुझे (पुनातु) पवित्र करे।

भावार्थः—(१)देवजनाः—वे जन जो दिव्यगुणों वाले हैं, दिव्यगुणों को देकर मुझे पवित्र करें। सत्यभाषण, परोपकार, दया आदि दिव्यगुण हैं। इन गुणों के धारण करने से मनुष्य पवित्र होजाता है। जिन जनों में ये दिव्यगुण रहते हैं उन्हें देवजन कहते हैं।

(२) मनवः—मननशील मनुष्य मेरी बुद्धि को पवित्र कर मुझे पवित्र करें। पवित्र और अपवित्र कर्मों का मूल बुद्धि है। इसीलिये श्रेष्ठ गायत्री मन्त्र में भी बुद्धि के लिये प्रार्थना है। बुद्धि के पवित्र हो जाने पर कर्म स्वयं पवित्र हो जाते हैं। मन्त्र में बुद्धि और उस के द्वारा जीवन को पवित्र करने का सामर्थ्य "मनव" को दिया है। मनवः का अर्थ है—मननशील मनुष्य। अतः इस वर्णन से स्पष्ट प्रतीत होरहा है कि बुद्धि को पवित्र करने का मुख्य साधन मनन है। जैसे २ हम सत्कर्मों और सद् विचारों का मनन करेंगे, वैसे वैसे हम में मानसिक स्थिरता के साथ साथ, उन सत्कर्मों तथा सद्विचारों में अनुराग बढ़ता जायगा जिस का कर्मों पर भी अवश्य असर होगा।

(३) विश्वाभूतानिः—विश्वभूत मुझे पवित्र करें, यह तीसरा प्रक्रम है। जब हमारे जीवनों में विश्व-भूत-हित का भाव जागृत होता है तो यह भाव हमें पवित्र बना देता है।

जैसे २ स्वार्थ के भावों के स्थान में परार्थ के भाव आते जाते हैं जीवन भी वैसे ही शनैः शनैः पवित्र होता जाता है ।

(४) पवमानः—चौथा प्रक्रम है, परमात्मा से पवित्रता का मांगना। परमात्मा पवित्र से भी पवित्र है, इससे बढ़ कर कोई पवित्र नहीं । अतः परमात्मा की स्तुति, प्रार्थना और उपासना द्वारा अपने जीवन को पवित्र बनाना, यह अन्तिम साधन है । इस प्रकार इस मन्त्र में पवित्रता के चार साधन माने हैं १—देवजनों की सत्सङ्गति द्वारा दिव्यगुणों का लाभ, २—मनन शीलों की सत्संगति द्वारा मनन का लाभ, ३ — विश्वभूतहित, ४—परमात्मा की स्तुति, प्रार्थना और उपासना । इन चारों साधनों से हमारा जीवन पवित्र हो सकता है ।

पवित्रता के विना उत्तम बुद्धि, उत्तम कर्म, उन्नत जीवन तथा अहिंसा असम्भव है

पवमानः पुनातु मा क्रत्वे दक्षाय जीवसे । अथो अरिष्टतातये ॥ अथर्व० ६ । १६ । २ ॥

(पवमानः) पवित्र परमेश्वर (मा) मुझे (पुनातु) पवित्र करे, (क्रत्वे) बुद्धि और कर्म के लिये, (दक्षाय) वृद्धि तथा बल के लिये, (जीवसे) जीवन के लिये, (अथो)

और उस के बाद (अरिष्टतातये) अहिंसा के विस्तार के लिये ।

भावार्थः—मन्त्र में पवित्र परमात्मा से पवित्रता मांगी है। विना पवित्रता के बुद्धि-शक्ति तथा कर्मयोग, चहुँ मुख वृद्धि तथा शारीरिक मानसिक और आत्मिक बल तथा उत्तम जीवन नहीं हो सकते । और इन की प्राप्ति के विना अहिंसाभाव का विस्तार हम नहीं कर सकते । पवित्रता साधन है क्रतु दक्ष और पवित्र जीवन में । क्रतु, दक्ष तथा उत्तम जीवन साधन हैं अरिष्टताति अर्थात् अहिंसाभाव के विस्तार में । अतः प्रत्येक मनुष्य का कर्तव्य है कि वह पवित्रता को प्राप्त कर क्रतु, दक्ष तथा उत्तम जीवन को प्राप्त करे और इन को प्राप्त कर संसार में अहिंसा का प्रचार करे । अहिंसा-वृत्ति के मूल में पवित्रता का निवास है । जीवन में पवित्रता के विना अहिं-सा का भाव जागृत नहीं हो सकता । एक बात और स्मरण रखनी चाहिये । हिंसकों के प्रति हिंसा का व्यवहार न करने में ये दो भाव हैं—(क) कायरता, (ख) अहिंसा वृत्ति । यदि मनुष्य कायर है तब तो वह हिंसकों के प्रति हिंसा का व्यवहार कर ही नहीं सकता । यदि वह प्रत्यपकार के लिये बल रखता हुआ भी हिंसा नहीं करता तो वह इसलिये नहीं कि वह कायर है, अपितु इसलिये कि वह इस मार्ग का अ-

वलम्बन करना ही नहीं चाहता। यही वृत्ति अहिंसा भाव की है। बल न होने पर क्षमा कर देना क्षमा नहीं, अपितु कायरता है। और बल के रहते हुए क्षमा कर देना वास्तव में क्षमा है। यही अहिंसा है। इसीलिये मन्त्र में दक्ष अर्थात् बल की प्राप्ति के बाद अरिष्टताति अर्थात् अहिंसा का वर्णन है। अतः विना पवित्रता के क्रतु, दक्ष और जीवन का पूर्ण विकास नहीं हो सकता और विना इन के पूर्ण विकास के अहिंसा धर्म का विस्तार नहीं हो सकता।

पापनिराकरण के उपाय

(१) पापों से अलग होने की दृढ़ इच्छा

वि देवा जरसावृतन् वि त्वमग्ने अरात्या। व्यहं सर्वेण पाप्मना वि यक्ष्मेण समायुषा॥ अथर्व० ३।३१।१॥

(देवाः) देव लोग (जरसा) बुढ़ापे से (वि) अलग (अवृतन्) रहे हैं, (अग्ने) हे आग! (त्वम्) तू (अरात्या) अदान से (वि) अलग रही है। (अहम्) मैं (सर्वेण) सब (पाप्मना) पाप से (वि) अलग रहूं, (यक्ष्मेण) यक्ष्म आदि रोगों से (वि) अलग रहूं, (आयुषा) उत्तम तथा पूर्ण आयु से (सम्) संयुक्त रहूं।

भावार्थः—(१) इस मंत्र में व्यक्ति, पापों और रोगों से अलग रहने की इच्छा प्रकट करता है। इस इच्छा की पूर्ति के लिये वह संसार के दो प्रसिद्ध दृष्टान्तों को अपने सन्मुख रखता है। पहिला दृष्टान्त देवों का और दूसरा अग्नि का है। देव बुढ़ापे से और आग अदान से जैसे सदैव अलग रहते हैं, कभी इन से संबद्ध नहीं होते, इसी प्रकार मैं भी पापों और रोगों से अलग हो जाऊँ, यही दृढ़ेच्छा इस मन्त्र द्वारा की गई है।

(२) मन्त्र में कहा है कि देवों को बुढ़ापा नहीं आता। वे सदैव बुढ़ापे से उन्मुक्त रहते हैं। यूं तो बुढ़ापा सभी को आता है, भेद इतना ही है कि देवों को केवल शरीर का बुढ़ापा आता है और वह भी देर में, परन्तु हम लोगों को शरीर और मन दोनों का बुढ़ापा आता है और वह भी शीघ्र। यदि मन में बुढ़ापा नहीं तो शरीर का बुढ़ापा कोई बुढ़ापा नहीं। देव कहते हैं "दिव्य गुण वालों को"। सदाचारी, परोपकारी, निर्भय, उदार, शूर तथा विद्वान् देव हैं। इन को मानसिक बुढ़ापा कभी भी नहीं आता। जैसे ये बुढ़ापे से छूटे हुए हैं इसी प्रकार पापों और रोगों के सम्बन्ध से मैं भी सदा छूटा रहूँ।

(३) दूसरा दृष्टान्त है अग्नि का। अग्नि अदान से सदोन्मुक्त है। अग्नि पैदा होता हुआ ताप और प्रकाश के साथ ही पैदा होता है। ताप और प्रकाश से शून्य अग्नि की सत्ता

ही नहीं हो सकती। अग्नि पैदा होते ही ताप और प्रकाश का दान भी करने लगता है। ऐसा कभी नहीं हो सकता कि अग्नि पैदा हो, उस के पास ताप और प्रकाश हों और वह उस ताप और प्रकाश का दान न करे। दीपक जलते ही वह ताप और प्रकाश का दान करने लगता है। अतः अग्नि अदान से सर्वथा और सर्वदा अलग है। इसी प्रकार इस अग्नि में जो वस्तु डाली जावे उसे यह अपने लिये नहीं रखता अपितु उसे पूर्णरूप में वायु, जल तथा ओषधि आदि को दान कर देता है। जैसे अग्नि अदान से अलग है इसी तरह मैं भी पापों और रोगों से अलग होजाऊँ इस प्रकार की इच्छा पाठक किया करें यह मन्त्र में सूचित किया है।

(४) मन्त्र में दूसरी यह इच्छा की गई है कि मैं उत्तम तथा पूर्ण आयु वाला होऊँ। इस प्रसङ्ग में मन्त्र के पिछले आधे हिस्से पर पुनर्विचार की अत्यन्त आवश्यकता है। मन्त्र के इस हिस्से में तीन इच्छाओं का वर्णन है। (क) मैं सभी पापों से पृथक् हो जाऊं। पाप तीन तरह के होते हैं—मानसिक, वाचिक और कायिक। किसी का बुरा चाहना, कुविचार करना आदि मानसिक पाप हैं। कठोर बोलना, निन्दा करना, असत्य बोलना आदि वाचनिक पाप हैं। व्यभिचार, हिंसा, कुचेष्टाआदि कायिक पाप हैं। (ख) दूसरी इच्छा यह है कि मैं रोगों

से मुक्त हो जाऊं। (ग) तीसरी इच्छा यह है कि मैं उत्तम और पूर्ण आयु के साथ संयुक्त हो जाऊं। इन तीनों इच्छाओं में कार्यकारणभाव है। तभी इन का इस क्रम से वर्णन मन्त्र में किया है। पापों से हटने पर रोगों से मुक्ति हो सकती है और रोगों से मुक्ति मिलने पर आयु की उत्तमता और पूर्णता हो सकती है। पापी मनुष्य कभी रोगों से मुक्त नहीं हो सकता और रोगी कभी भी उत्तम तथा पूर्ण आयु को प्राप्त नहीं कर सकता। अतः प्रथम पापों से हटना चाहिये पुनः हम रोगों से मुक्ति पा सकेंगे और तत्पश्चात् हम उत्तम तथा पूर्ण आयु प्राप्त कर सकेंगे।

(५) परन्तु प्रश्न पैदा हो सकता है कि इस मन्त्र में पापों से अलग होने का कोई तरीक़ा या साधन तो बतलाया नहीं फिर पापों से छुटकारे का वर्णन कैसा? इस का उत्तर यह है कि "मैं पापकर्मों से अलग रहूं" यह दृढेच्छा ही मनुष्य को पापकर्मों से बचाती है। यह सदिच्छा ही मनुष्य को पाप-पङ्क से बाहिर निकाल देती है। बल्कि मनुष्य का पाप-पङ्क के साथ सम्बन्ध ही नहीं होने देती। *"मन एव मनुष्याणां कारणं बन्धमोक्षयोः"* मन ही मनुष्यों के बन्ध और मोक्ष का कारण है। यदि सदिच्छा से मनोभूमि को परिष्कृत कर लिया जाय तो इस में पाप की जड़ लग ही नहीं सक-

ती। मनुष्य के मन में यदि पापों से छुटकारा पाने की दृढ़े-च्छा होगई है तो वह अवश्य ही पापबन्धन से मुक्ति पा सकता है। और इस प्रकार पापों से छुटकारा पाने पर जब शरीर, मन और आत्मा रोगों से मुक्त होकर स्वस्थ हो जावें तो मनुष्य की आयु उत्तम तथा पूर्ण हो सकती है। इसलिये इस मन्त्र म पापों से छूटने की इच्छा करने मात्र का ही उपदेश है।

पापनिराकरण के उपाय

(२) पवित्रता और (३) शक्ति

आर्त्या पवमानो वि शक्रः पापकृत्यया। अहं सर्वेण पाप्मना वि यक्ष्मेण समायुषा ॥ अथर्व० ३। ३१। २ ॥

(पवमानः[1]) पवित्र करने वाला (आर्त्या[2]) दुःख पीड़ा से (वि) अलग है, (शक्रः[3]) शक्तिशाली (पापकृत्यया) पाप-कर्म से (वि) अलग है। (अहम्) मैं (सर्वेण) सब (पाप्मना) पापों से (वि) अलग रहूँ, (यक्ष्मेण) क्षयरोग से (वि) अलग रहूँ, (आयुषा) [उत्तम और पूर्ण] आयु (सम्) संयुक्त (होऊं) ॥

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१ पूङ् पवने। (२) ऋ हिंसायाम्। (३) शक्लृ शक्तौ ॥

भावार्थः—(१) इस मन्त्र में वि और सम् के साथ पूर्व मन्त्र में पठित वृत् धातु का संबन्ध करना चाहिये।

(२) मन्त्रगत पवमान और शक्र पद परमात्मा के नाम हैं। परमात्मा स्वयं पवित्र है और अन्यों को पवित्र करता है, अतएव दुःख पीड़ा उसे नहीं होते। दुःख और कष्ट अपवित्र कर्मों के फल हैं। पवित्र कर्मों के नहीं। पवित्र कर्मों का फल सुख और आनन्द होता है। परमात्मा साधुकर्मा है, पवित्रकर्मा है, अतः उसे सर्वदा आनन्द होता है। उस के साथ दुःख और कष्ट का सम्पर्क नहीं। वह दुःख और कष्ट से सर्वदा अलग है। इस ऊपर लिखे सत्य सिद्धान्त के दर्शाने के लिये "*व्यार्त्या पवमानः*" ऐसे शब्द मन्त्र में रक्खे हैं। जिनका यह भाव है कि चूंकि परमात्मा पवमान है इसीलिये वह आर्ति अर्थात् कष्टों से अलग है। इसी प्रकार जो कोई भी पवमान होगा अर्थात् स्वयं पवित्र होकर औरों को भी पवित्र बनावेगा वह दुःख और कष्टों से अवश्य छुटकारा पालेगा।

(३) मन्त्र का दूसरा टुकड़ा है "*वि शक्रः पापकृत्यया*"। जिस का अर्थ यह है कि शक्तिशाली, पाप-कर्म से अलग रहता है। धर्मशास्त्रों में पापवृत्तियों को शत्रु कहा है। ये पापवृत्तियां बाह्यशत्रु नहीं अपितु अन्तःशत्रु हैं। बाह्यशत्रु, धन माल

घर नगर पर प्रहार करते हैं और अन्तःशत्रु मन पर। शत्रुओं के रोकने के लिये समाज और राष्ट्र में शक्ति चाहिये। इस शक्ति के अभाव में शत्रु अवश्य ही उस समाज या राष्ट्र को दबा लेंगे। इसी प्रकार जिस मनुष्य में शक्ति नहीं कि वह अपने अन्तःशत्रुओं को रोक सके, उस के अन्तःशत्रु उसे अवश्य दबा लेंगे। परमात्मा शक्त है। वह शक्तिमान् है। अतएव वह पापकृत्या से अलग है। पाप का बल, शक्तिशाली परमात्मा पर कुण्ठित हो जाता है। इसी प्रकार जो मनुष्य पाप को परास्त करने के लिये अपने अन्दर शक्ति का संचय कर लेता है पाप उसे भी नहीं सताता। अतः प्रत्येक मनुष्य को आत्मिक बल का और मनःशक्ति का संचय करना चाहिये। शारीरिक बल का क्षय होना भी पाप का साधन बन जाता है।

(४) अतः पापों से अलग रहने के दो उपाय इस मन्त्र के पूर्वार्ध में बताये हैं।

(क) *पवित्र होना*, (ख) *शक्ति प्राप्त करना*। मन्त्र के उत्तरार्ध में पाप से अलग होने का (ग) तीसरा उपाय *"पाप से अलग होने की इच्छा"* बतलाया है। इस प्रकार इन उपायों द्वारा सब पापों से मुक्त होकर रोगों से मुक्त हो हम उत्तम तथा पूर्ण आयु को पा सकते हैं।

पापनिराकरण के उपाय

(४) ब्रह्म

यथा वातश्च्यावयति भूम्या रेणुमन्तरिक्षाच्चाभ्रम् ।
एवा मत्सर्वं दुर्भूतं ब्रह्मनुत्तमपायति॥ अथर्व० १० । १ । १३ ॥

(यथा) जैसे (वातः) वायु (भूम्याः) भूमि से (रेणुम्) धूलि को (च) और (अन्तरिक्षात्) अन्तरिक्ष से (अभ्रम्) मेघ को (च्यावयति) विच्युत कर देता है । (एवा) इसी प्रकार (ब्रह्मनुत्तम्) ब्रह्म द्वारा धकेला हुआ (सर्वम्) सब (दुर्भूतं) पाप (मत्) मुझ से (अपायति) दूर हट जाता है ।

भावार्थः—(१) वैदिक साहित्य में ब्रह्म शब्द द्वारा तीन अर्थ लिये जाते हैं । परमात्मा, वेद और ब्राह्मण । परन्तु इस मन्त्र में ब्रह्म शब्द द्वारा परमात्मा का ही ग्रहण प्रतीत होता है ।

(२) मन्त्र में चित्त को भूमि और अन्तरिक्ष से, दुर्भूत अर्थात् पाप को रेणु और अभ्र से, तथा वायु को ब्रह्म से उपमित किया गया है । वायु, भूमि से मृत्कणों को और अन्त-

रिक्ष से मेघों को, अनायास ही स्थानभ्रष्ट कर देता है। इसी प्रकार ब्रह्मरूपी वायु भी, चित्तरूपी भूमि और अन्तरिक्ष से, पापरूपी रेणु और अभ्र को धकेल कर दूर कर देता है।

(३) वायु के दृष्टान्त द्वारा ब्रह्म में पापों को दूर करने की स्वाभाविक शक्ति जतलाई है। पाप, रजोगुण और तमोगुण का धर्म है। योगदर्शन में लिखा है कि ब्रह्माराधना द्वारा ब्रह्म जब प्रसन्न हो जाता है तो वह भक्तों पर अनुग्रह करता है और भक्तों के रज तथा तम को दूर कर उन को समाधिलाभ शीघ्र कराता है। देखो योगदर्शन पा० १, सू० २३, तथा उस पर भाष्य। जब रज और तम दूर हुए तो रज और तम के धर्म भी दूर हो [illegible] हैं। पाप, रज और तम का ही धर्म है। पाप, सत्व का [illegible] हीं। [illegible] ह्म द्वारा या ब्रह्मोपासना द्वारा पाप दूर ह[illegible] हैं यह [illegible] त स्पष्ट है।

(४) नुत्तम् पद [illegible] शेष ध्यान देना चाहिये। इस पद से स्पष्ट प्रतीत होता है कि ब्रह्म अपने भक्तों के पापों को धकेलता है। अतः पापों को दूर करने में ब्रह्म, कृति-प्रधान-साधन (Active agent) है। अतः जिन लोगों की यह कल्पना है कि उपासना केवल Auto suggestion (स्वोद्बोधन) द्वारा ही उपासक को फल देती है, वे भ्रम में हैं। उपासना में

स्वोद्बोधन के आंशिक सामर्थ्य से इन्कार किसी को नहीं। परन्तु उपासना का मुख्य प्रयोजन, उपास्य देव को प्रसन्न कर उस की प्रसन्नता का भाजन बनना ही है। जब परमात्मा उपासना द्वारा प्रसन्न हो जाते हैं, तो वे, भक्त के पापों को दूर करते और उस की सत्य मनोवाञ्छा को पूरा करते हैं। उपासना में परमात्मा के इस Active रूप का निर्देश करने के लिये ही मन्त्र में नुत्तम् पद दिया प्रतीत होता है।

(५) जब मनुष्य पाप कर लेता है उस के बाद उस के मन म थोड़ा बहुत दुःख अवश्य होता है। और वह कहता है कि "बुरा हुआ" अर्थात् मैंने अच्छा नहीं किया। दुर्=बुरा, भूतम्=हुआ। मनुष्य पाप को दृष्टि में रख कर ही "दुर्भूतम्" कहता है। अतः पाप का नाम ही 'दुर्भूतम्' पड़ गया है।

(६) ओषधि कोई तो एक बीमारी को दूर हटाती है कोई दूसरी को। परन्तु परमात्मा की भक्ति एक ऐसी औषध है जो कि सभी पापरूपी रोगों को दूर हटाती है। अतएव मन्त्र में 'सर्वम्' पद रक्खा ह।

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पाप निराकरण के उपाय

(५) पापवृत्ति को वशीभूत करना

अव मा पाप्मन् सृज वशी सन् मृडयासि नः । आ मा भद्रस्य लोके पाप्मन् धेह्यविह्रुतम् ॥ अथर्व० ६ । २६ । १ ॥

(पाप्मन्) हे पाप ! (मा) मुझे (अवसृज) छोड़ दे, (वशी) हमारे वशीभूत (सन्) होकर (नः) हम को (मृडयासि) सुखी कर । (मा) मुझे (अविह्रुतम्) कुटिलता से जुदा कर के (भद्रस्य) कल्याण और सुख के (लोके) लोक में (आधेहि) स्थापित कर ॥

भावार्थः—(१) जिस प्रकार कोई मनुष्य किसी हत्यारे के चुंगल में फंसा हुआ, उस से छूटने के लिए किसी अन्य उपाय को हस्तगत न जान, उसी से अनुनय विनय करने लगता है इसी प्रकार की अवस्था का वर्णन इस मन्त्र में है। जब मनुष्य पाप की पकड़ से निकल नहीं सकता, परन्तु निकलना चाहता है तब वह पाप से ही छुटकारे के लिये विनय करता है कि हे पाप! तू कृपा कर, मुझे छोड़ जा । परन्तु जब वह विनय से भी नहीं मानता, तब छुटकारा पाने वाला धैर्य्यावलम्बन कर उसे अपनी इच्छाशक्ति के आधीन करना चाहता है, और कहता है कि तू हमारे वशीभूत हो, और वशी-

भूत होकर हम को सुखी कर। पापवृत्तियों को जब वश में कर लिया जाता है तब मनुष्य को सुख होता है। उस का चित्त शान्त और सन्तुष्ट हो जाता है। परन्तु इस प्रयत्न के करने के बाद भी पाप जब वशीभूत नहीं होता, तब मनुष्य पुनः अनुनय विनय का मार्ग पकड़ता है। और पाप से कहता है कि हे पाप ! तू कृपा कर, मुझे कुटिल मार्ग से पृथक् कर, मुझे भद्रमार्ग में स्थापित कर। इस प्रकार, पाप से छूटने की इस प्रथम अवस्था में, डांट डपट, अनुनय विनयरूपी साधन का ही आश्रय लेना पड़ता है। जिन लोगों ने अपनी पापमयी वृत्तियों के जीतने में कुछ भी प्रयत्न किया है, वे इस साधन की खूबी को अच्छे प्रकार समझ सकते हैं।

(२) पाप भी हमें पुण्य का रास्ता दिखलाता है। पाप जब अन्तिम कोटि तक पहुंच जाता है तब चित्त में प्रतिक्रिया (Re-action) पैदा होने लगती है। और पापी उस समय पुण्य मार्ग पर पग रखने लगता है। इसी अभिप्राय से मन्त्र में कहा है कि भद्रलोक में पहुंचाने की शक्ति पाप में भी है। भद्रलोक का अर्थ श्रेय और प्रेयमार्ग है।

(३) 'अविहुतम्' पद द्वारा यह सूचित किया गया है कि मन में जबतक कुटिलता रहती है तब तक मनुष्य भद्रलोक में नहीं जा सकता अर्थात् भद्र नहीं बन सकता। कुटि-

लता सब पापों का पूर्वरूप अर्थात् कारण है। कुटिलता का अर्थ है टेढ़ापन। मन जब सीधा अर्थात् अपनी स्वाभाविक अवस्था में होता है तब वह पापों की ओर नहीं झुकता। मन जब पाप करने में झुकता है तो उसे अपने स्वाभाविक रूप को छोड़ना पड़ता है और एक टेढ़ा रूप धारण करना पड़ता है। अतः मन को अपनी स्वाभाविक सरल अवस्था में रखना भी पापों से छूटने का उपाय है।

पाप निराकरण के उपाय

(६) दृढ़ संकल्प

यो नः पाप्मन् न जहासि तमु त्वा जहिमो वयम् ॥ अथर्व० ६ । २६ । २ ॥

(पाप्मन्) हे पाप ! (यः) जो तू (नः) हम को (न) नहीं (जहासि) छोड़ता है (तम्) उस (त्वा) तुझ को (वयम्) हम (उ) ही (जहिमः) छोड़ देते हैं ॥

भावार्थः—(१) इस मन्त्र में पाप के निराकरण के लिये दृढ़ संकल्प अथवा दृढ़ इच्छाशक्ति रूपी उपाय का अवलम्बन किया है। "यदि पाप हमें नहीं छोड़ता तो हम ही

पाप को छोड़ देते हैं" यह दृढ़ संकल्प का एक स्वरूप है। इस प्रकार का दृढ़ निश्चय कि "अब हम ने पाप को छोड़ दिया है" "पाप अब हमारे पास नहीं आवेगा" पापमयी वृत्तियों पर अवश्य विजय पा लेता है।

(२) मन्त्र में "नः" और "वयम्" पद आये हैं। इन से प्रतीत होता है कि यह मन्त्र पाप के विरुद्ध अनेक व्यक्तियों के युगपद् दृढ़ निश्चय की ओर भी निर्देश करता है। अर्थात् इस मन्त्र से स्पष्ट ज्ञात होता है कि "पापों के निराकरण के लिये कई मनुष्यों को चाहिये कि वे एक स्थान में बैठकर एक साथ मन की वृत्तियों को मज़बूत करें और पुनः पाप न करने के लिये दृढ़ संकल्प करें तथा वृत्त्यारूढ़ पाप और उनके संस्कारों के समूल नाश के लिये दृढ़ेच्छा शक्ति का प्रयोग करें"। दृढ़ संकल्प की यह विधि वैदिक कर्तव्यशास्त्र का मूल है।

पाप निराकरण के उपाय

(७) यज्ञ और (८) सत्यसंकल्प

मह्यं यजन्तां मम यानीष्टाकूतिः सत्या मनसो मे अस्तु। एनो मा निगां कतमच्चनाहं विश्वे देवा अभिरक्षन्तु मेह ॥
अथर्व० ५ । ३ । ४ ॥

(मम) मेरे (यानि) जो (इष्टा) किये हुए देवपूजन, सत्सङ्ग और दान हैं वे (मह्यम्) मुझे (यजन्ताम्) प्राप्त रहें, (मे) मेरे (मनसः) मन का (आकूतिः) संकल्प (सत्या) सत्य (अस्तु) हो। (अहम्) मैं (कतमत्) किसी (चन) भी (एनः) पाप को (मा) न (निगाम्) प्राप्त होऊं, (इह) इस विषय में (विश्वे) सब (देवाः) देव (मा) मेरी (अभिरक्षन्तु) पूर्ण रक्षा करें ॥

भावार्थः—इस मन्त्र द्वारा तीन इच्छाएँ प्रकट की गई हैं।

(१) मैंने भूतकाल में जो देवपूजन, सत्सङ्ग तथा दान किया है, उसे मैं अब भी करता रहूं, वे कर्म मुझे सर्वदा प्राप्त रहें, मैं उन्हें कभी मत छोड़ूं।

(२) मेरा मानसिक संकल्प सत्यरूप हो। मैं कभी असत्य संकल्प न करूं। जो इच्छाएं करूं वे सर्वदा सत्यरूप ही हों।

(३) मैं किसी भी पापकर्म को न करूं।

ये तीन इच्छायें हैं। सादिच्छाओं के करने से प्रवृत्तियां भी सत् होती हैं, क्योंकि इच्छा ही प्रवृत्ति का कारण है। देवपूजन, सत्सङ्ग और दान से प्रवृत्त्यात्मक विधिरूप धर्म का निर्देश किया है। इन में प्रवृत्त रहने से मनुष्य का चित्त एक

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(१) इष्ट शब्द यज् धातु से बना है जिसके अर्थ देवपूजा, सत्संग और दान।

ओर लगा रहता है, अतः वह पापकर्मों की ओर नहीं झुकता। देवपूजन से अभिमान और दान से स्वार्थ भाव भी शिथिल होजाता है। अभिमान और स्वार्थभाव स्वयं भी पापों की ओर ले जाने वाले हैं। इन के हट जाने से मन पापों से भी हट जाता है। सत्सङ्ग द्वारा सद्गुणों का संक्रम सत्संग करने वाले के चित्त में होता है। इस प्रकार देवपूजन, दान और सत्सङ्ग ये तीनों ही पापमार्ग से हटाने वाले हैं। देवपूजन, दान और सत्सङ्ग ये चेष्टारूप अर्थात् क्रियारूप धर्म हैं।

इस चेष्टारूप धर्म के साथ साथ इच्छारूप धर्म भी होना चाहिये। सत्य और शुभ इच्छाओं के करने और बारम्बार करने से भी मन पापों की ओर नहीं जाता। अतः चेष्टारूप सत्कर्म और सदिच्छा रूप सत्कर्म (सत्यसंकल्प) जब मिल जाते हैं तो वे अवश्य ही मनुष्य को पापकर्मों से हटा देते हैं। मैं किसी पापकर्म को न करूं, इस प्रकार की तीसरी इच्छा भी मनुष्य की पापकर्मों से रक्षा करती है। इस प्रकार की इच्छा भी पापकर्म की साक्षात् विरोधिनी है।

अतः उपरोक्त तीनों इच्छाओं के प्रबल हो जाने पर मनुष्य की फिर पापकर्मों में प्रवृत्ति नहीं होती। इन तीन इच्छाओं के होते हुए एक और वस्तु भी अपेक्षणीय है जो सदाचार के लिये अत्यावश्यक है। वह है "देवसंरक्षण"। दिव्य गुणों वाले सज्जनों की संरक्षा में रहना, उन द्वारा निर्दिष्ट मार्ग पर चलना, सदाचारी होने का

अतिसुगम और निश्चित उपाय है । इसीलिये वैदिक सिद्धान्त में सदाचार आदि की शिक्षा के लिये ब्रह्मचारी को आचार्य देव की संरक्षा में छोड़ने का विधान पाया जाता है ।

पापनिराकरण के उपाय

(९) पापों में दोषदर्शन और (१०) पापों की कामना का त्याग

परोऽपेहि मनस्पाप किमशस्तानि शंससि । परेहि न त्वा कामये, वृक्षां वनानि संचर गृहेषु गोषु मे मनः ॥ अथर्व० ६ । ४५ । १ ॥

(मनस्पाप) हे मानसिक पाप ! (परः) दूर (अपेहि) हटजा, (किम्) क्यों (अशस्तानि) अप्रशस्त कामों की (शंससि) तू प्रशंसा-स्तुति करता है । (परेहि) दूर चला जा, (त्वा) तुझे (न,कामये) मैं नहीं चाहता, (वृक्षान्) वृक्षों और (वनानि) वनों में (संचर) फिरता रह, (मे) और मेरा (मनः) मन (गृहेषु) गृह-कृत्यों और (गोषु) गौ आदि पशुओं की सेवा में लगा रहे ॥

भावार्थः—(१) पाप तीन प्रकार के होते हैं । मन के, वाणी के और काय के । मानसिक पाप, वाणी और काय द्वारा किये

जाने वाले पापों के कारण हैं । मन में यदि कोई पाप नहीं तो वचन और काय भी पापरहित रहेंगे । अतएव इस मन्त्र में मानसिक पापों के हटाने का वर्णन है ।

(२) पापरूपी जाल में फंसा हुआ मन सर्वदा अकर्तव्य कर्मों की प्रशंसा किया करता है । यथाः—"इस काम को कर लेना चाहिये" "यह काम अच्छा है" "देखो उसने भी किया था" "संसार में ऐसा ही चला आया है" "देखो संसार में ऐसे काम करने वाले कितने समृद्ध बने हुए हैं" इत्यादि कई वाक्यों में मन पाप की प्रशंसा किया करता है ।

(३) इस मन्त्र में मानसिक पाप को सम्बोधित किया है । उस के हटाने के लिए उसे कल्पना द्वारा मन के सन्मुख खड़ा किया है । और उस के लिये कहा है कि तू दूर हट जा, बुरे कार्यों की प्रशंसा मत कर, चला जा, मैं तुझे नहीं चाहता । इन और इस प्रकार के अन्य वाक्यों के वाग्भाषण अथवा मनोभाषण से प्रवक्ता के चित्त में पाप के विरुद्ध दृढ़ भावना पैदा हो जाती है । इस प्रकार से पापों के विरुद्ध यदि मनुष्य लगातार अभ्यास करेगा तो वह अवश्य ही उन पर विजय पा लेगा। इस प्रकार अभ्यास करते करते अभ्यासी के मन में पापों के लिये घृणा पैदा हो जाती है । अतः ऊपर कहे हुए प्रकार से प्रत्येक मनुष्य को अभ्यास करना चाहिये ।

(४) यह मन्त्र गृहस्थ के सम्बन्ध का प्रतीत होता है । अतः मन्त्र में "गृहेषु गोषु मे मनः" ये पद आये हैं। इन पदों से एक और सिद्धान्त भी सूचित किया है। वह यह कि *"पापवृत्तियों के जीतने के लिये यह आवश्यक है कि मनुष्य सुस्त न बैठे। किसी न किसी उत्तम काम में अवश्य लगा रहे"*। इसीलिये मंत्र में कहा है कि मेरा मन गृहकृत्यों और गोसेवा में लगा रहे। क्योंकि मानसशास्त्र का यह नियम है कि (क) *मन निकम्मा नहीं रह सकता* । (ख) *उसमें दो भाव इकट्ठे नहीं रह सकते* । (ग) *तथा जिस भाव पर विजय पाना हो उस से विरोधी भाव को मानसस्थली म उपस्थित रखना चाहिये*"। मन्त्र में के *'परेहि' 'न त्वा कामये'* आदि सद्भाव पापभावों के विरोधी हैं। अतः पापवृत्तियों के हटाने के लिये ऐसे भावों को चित्त में स्थान देना चाहिये ।

कामना की प्रबलता से अन्तः-शत्रुओं का पराजय

जहि त्वं काम मम ये सपत्ना अन्धा तमांस्यव पादयेनान् । निरिन्द्रियाः अरसाः सन्तु सर्वे मा ते जीविषुः कतमच्चनाहः ॥ अथर्व० ६ । २ । १० ॥

(काम) हे इच्छा-शक्ति ! (मम) मेरे (ये) जो (सपत्नाः) शत्रु हैं उन को (त्वम्) तू (जहि) मार डाल, (एनान्) इन को (अन्धा=अन्धानि) गाढ़ (तमांसि) अन्धकार में (अवपादय) नीचे गिरा दे। (ते) वे (सर्वे) सब (निरिन्द्रियाः) इन्द्रियशून्य तथा (अरसाः) नीरस निर्वीर्य (सन्तु) हो जावें, और (कतमत्) किसी एक (अहः) दिन (चन) भी (मा) न (जीविषुः) जीवें ॥

भावार्थः—(१) इस मन्त्र में इच्छाशक्ति का सामर्थ्य बतलाया है। इस समग्र सूक्त का पढ़ना बहुत लाभकारी होगा। समग्र सूक्त ही इच्छाशक्ति की महिमा का वर्णन करता है। इस मन्त्र के आध्यात्मिक भाव पर विशेष ध्यान देना चाहिये। मनु महाराज ने ६ अन्तःशत्रुओं को गिनाया है। यथा (१) काम (२) क्रोध (३) लोभ (४) मोह (५) मद (६) अहंकार। ये ही ६ सपत्न हैं। सपत्न शब्द सपत्नी से बना प्रतीत होता है। सपत्नियों में पारस्परिक विरोध प्रसिद्ध है। चित्तरूपी पति की भी दो स्त्रियां हैं एक शुभवृत्ति और दूसरी अशुभवृत्ति। इन में भी परस्पर विरोध है। काम क्रोधादि ६ शत्रु अशुभवृत्तिरूप हैं। अतः ये मनुष्य या मनुष्य की शुभवृत्तियों के शत्रु हैं।

(२) मनु महाराज के दर्शाये ६ शत्रुओं में से काम का

अर्थ है शत्रुरूप काम अर्थात् विषय-कामना। परन्तु मन्त्रगत काम शत्रुरूप नहीं, वह परम मित्र है। इस काम का अर्थ है इच्छा-शक्ति। यह इच्छाशक्ति उपरोक्त ६ शत्रुओं का नाश कर सकती है। इन ६ शत्रुओं के हनन के लिये दृढ़ इच्छाशक्ति के सिवाय अन्य कोई उपाय नहीं। यम नियमादि साधनों का पालन भी दृढ़-इच्छा-शक्ति के विना नहीं हो सकता। दृढ़-इच्छाशक्ति ही इन ६ अन्तःशत्रुओं के नाश का अमोघास्त्र है।

(३) मंत्र में "निरिन्द्रियाः" का एक विशेष भाव है। कामादि अन्तःशत्रु इन्द्रियों द्वारा ही भोग भोगते या भुगवाते हैं। मन में रहते हुए भी जब तक ये इन्द्रियों पर अधिकार नहीं जमाते तब तक इन के विषय भोगे नहीं जा सकते। कामी के मन में काम-चेष्टा का भाव तो जागृत हुआ, परन्तु इस कुचेष्टा की इच्छा से प्रेरित हुआ मनुष्य जब तक काम के विषय को इन्द्रियारूढ़ नहीं करता, तब तक वह कामरूपी शत्रु द्वारा पराजित हुआ नहीं समझा जाता। परन्तु काम के विषय के इन्द्रियारूढ़ होते ही मनुष्य पूर्णरूप में काम से पराजित हो जाता है। इसी प्रकार क्रोधादि के विषय में भी जानना चाहिये। ये शत्रु भी काम की न्याईं अपनी अपनी इन्द्रियों को द्वार बनाकर ही अपने अपने विषयों का भोग कराते हैं। मनुष्यों को परास्त करने के लिये, इन्द्रियां मानो इन ६ शत्रुओं

के द्वार अर्थात् रास्ते हैं । इसीलिये मंत्र में "निरिन्द्रियाः" पद से इन शत्रुओं का वर्णन किया है । ये शत्रु निरिन्द्रिय हों। इन शत्रुओं का हमारी इन्द्रियों के साथ संबन्ध न हो । मार करने में ये इन्द्रिय-द्वारों के प्रभु न हों । अर्थात् उन की सत्ता केवल मन तक ही सीमित रहे वे इस सीमा को लांघ कर इन्द्रिय सीमा पर प्रहार न करें । उन का निवास केवल मनोभूमि में ही हो, वे इन्द्रियभूमि में अपना पग न रख सकें । इस प्रकार "निरिन्द्रियाः" पद से इन शत्रुओं के प्राबल्य रूप का निषेध किया है । भाव जो मन में उठ कर मन में ही लीन हो जाते हैं, उन की अपेक्षा वे भाव अधिक बली होते हैं जो कि मन में पैदा होकर बाह्य इन्द्रियों की क्रियाओं या व्यापारों में भी परिणत हो जाते हैं ।

(४) परन्तु कामादि की सत्ता इस निर्बल अर्थात् निरिन्द्रिय अवस्था में भी न रहनी चाहिये । निर्बल शत्रु समय पाकर प्रबल हो सकता है । अतः मन में भी इन का निवास सदाचार-शास्त्र की दृष्टि से अभीष्ट नहीं । इसी सिद्धान्त के दर्शाने के लिये मन्त्र में "अरसाः" यह पद दिया है । शरीर में जब तक रस का संचार है तब तक जीवन है । रस प्राणशक्ति का सहचारी है । रस के क्षीण होते ही प्राणशक्ति भी जवाब देने लगती है । अतः रस, जीवन का प्रतिनिधि है । अतः

"ये शत्रु अरस हों" इस का अभिप्राय यही है कि इन शत्रुओं का नाश हो। ये सूख जायं। इन में रस बिलकुल न रहे। इन का प्राणान्त हो जावे। कुसंस्कार ही इन शत्रुओं के रस हैं। इसी रस से इन शत्रुओं के देह की स्थिति होती है। यदि मनोभूमि से इन कु-संस्कारों को निकाल दिया जाव तो ये शत्रु भी मनोभूमि को छोड़ जायंगे। अतः "अरसाः" पद से कुविचार तथा कुंसस्कार रूप से भी स्थित इन शत्रुओं के विनाश के लिये प्रेरित किया गया है। दृढ़-इच्छा-शक्ति के कुठार से, अन्तः-शत्रु रूपी वृत्त की, कुसंस्कार रूपी जड़ भी काटी जा सकती है। इसलिये इस दृढ़-इच्छाशक्ति की प्राप्ति के लिये मनुष्य को अवश्य ही यत्नवान् होना चाहिये।

(५) मनुष्य को यत्न करना चाहिए कि ये शत्रु एक दिन भी जीवित न रह सकें। अर्थात् मनुष्य एक दिन भी कामादि के वशीभूत न हो। (कतमच्चनाहः) यह उत्तम जीवन का आदर्श है।

कामना दो प्रकार की है

(१) भद्र और (२) अभद्र

यास्ते शिवास्तन्वः काम भद्राः याभिः सत्यं भवति यद्वृणीषे । ताभिष्ट्वमस्माँ अभिसंविशस्वान्यत्र पापीरप वेशया धियः ॥ अथर्व० ६ । २ । २५ ।

(काम) हे कामना! (याः) जो (ते) तेरी (शिवाः) शुभ तथा (भद्राः) सुख और कल्याण के देने वाली (तन्वः) तनु हैं, (याभिः) जिन से (यद्) जो (वृणीषे) तू चाहती है वह (सत्यम्) सत्य (भवति) हो जाता है, (ताभिः) उन तनुओं के साथ (त्वम्) तू (अस्मान्) हम में (अभिसंविशस्व) अच्छे प्रकार प्रवेश कर । और (पापीः) पापयुक्त (धियः) विचारों को (अप) हम में से निकाल कर (अन्यत्र) अन्यत्र कहीं (वेशया) प्रविष्ट कर ॥

भावार्थः-(१) इस मंत्र में इच्छा का ही वर्णन है । इच्छा की तनु अर्थात् देह दो प्रकार की है । यहां तनु का अर्थ है, स्वरूप अथवा प्रकार । अतः अभिप्राय यह हुआ कि इच्छा के दो स्वरूप हैं या इच्छा दो प्रकार की है । एक शुभ

(१) कमु कान्तौ, कान्तिरिच्छा ॥

और दूसरी अशुभ। एक शिव और दूसरी अशिव। एक भद्र और दूसरी अभद्र। इच्छा के इन दो प्रकारों का वर्णन व्यास ऋषि ने योगभाष्य में निम्नलिखित रूप से किया है। *"चित्तनदी नामोभयतो वाहिनी, वहति कल्याणाय च वहति पापाय च"* योगदर्शन १। १२॥ इस का अभिप्राय यह है कि चित्त एक नदी है जो दो ओर बहती है। कल्याण की ओर और पाप की ओर। मन्त्र में भी काम अर्थात् इच्छा के दो रूप दर्शाये हैं। एक "शिवास्तन्वः" इन शब्दों से और दूसरा "पापी धियः" इन शब्दों से। शिव का अर्थ होता है कल्याण और पाप पद मंत्र तथा योगभाष्य दोनों में समान है।

(२) मन्त्र में यह भी कहा है कि शुभ इच्छाओं में बहुत बल होता है। शुभ इच्छाओं वाला मनुष्य जो चाहता है वह पूरा हो जाता है। इसीलिये मन्त्र में *"सत्यं भवति यद्वृणीषे"* कहा है। पापी जन की इच्छाओं में वह बल नहीं होता। योग की आश्चर्यकारी सिद्धियां भी इसी शुभ इच्छा के परिणाम हैं। अतः शुभ इच्छाओं की प्राप्ति और अशुभ इच्छाओं का त्याग नित्य करना चाहिये।

संसार-ग्राह से बचने का उपाय

संसार में लिप्त न होना

इदमहं रुशन्तं ग्राभं तनूदूषिमपोहामि । यो भद्रो रोचनस्तमुदचामि ॥ अथर्व० १४ । १ । ३८ ॥

(अहम्) मैं (इदम्) इस (रुशन्तम्) चमकीले भड़कीले (तनूदूषिम्) शरीर को दूषित करने वाले (ग्राभम्) संसार-ग्राह को (अपोहामि) त्यागता हूँ । (यः) जो (भद्रः) सुखकर और कल्याणमय तथा (रोचनः) रुचिररूप है (तम्) उसको (उत्) उत्तम होकर (अचामि) प्राप्त होता हूँ ॥

भावार्थः—ग्राभ पद में ग्रह् धातु है । वस्तुतः यह ग्राह शब्द है । ह को भ हो गया है । ग्राह का अर्थ नाका (मगरमच्छ) होता है । इस मन्त्र में संसार का ग्राहरूप से वर्णन है ।

(१) यह संसारग्राह बड़ा चमकीला भड़कीला है । वह अपनी चमक से जनता को अपनी ओर खींच लेता है ।

(२) जो मनुष्य इस संसारग्राह की ओर खिच जाते हैं उन की देह दूषित होजाती है । भोग का यह परिणाम स्वाभाविक ही है ।

(३) और अन्त में वे भोगी इस संसार-ग्राह के मुख के ग्रास बनकर नष्ट हो जाते हैं। रुश् का अर्थ हिंसा भी है। जिस से यह भाव सूचित होता है कि चमकीला संसार-ग्राह हिंसक है। यह हुआ प्रेयमार्ग का वर्णन।

श्रेयमार्ग का वर्णन मन्त्र के अगले आधे भाग में है। प्रकृति में न फंस कर परमात्मा की ओर झुकना यह श्रेयमार्ग है। परमात्मा भद्र है, रुचिर है। उस को प्राप्त होने के लिये प्रथम संसार-ग्राह का त्याग करना चाहिये। इस प्रकार मनुष्य प्रथम अपने आप को उत्तम बना कर, पुनः उस परमात्मा की प्राप्ति कर सकता है।

परन्तु प्रश्न पैदा होता है कि संसार का त्याग क्या वैदिक सिद्धान्तानुकूल है?। उत्तर है, नहीं। अपितु संसार साधन है परमात्मा की प्राप्ति का। संसार परमात्मा का निवास-गृह है। संसार और परमात्मा ये दो विरोधी मार्ग नहीं।

तो पुनः इस मन्त्र में संसार-त्याग के लिये क्यों प्रेरित किया?। उत्तर यह है कि मंत्र में संसार-त्याग के लिये कोई प्रेरणा नहीं। संसार को ग्राह नहीं बनने देना चाहिये, केवल इतना ही मन्त्र में कहा है। ग्राहरूपी संसार का त्याग करना चाहिये, न कि अग्राह-रूपी संसार का भी। संसार में ग्राहपन न आने दो,

संसार-त्याग का यही अभिप्राय है। संसार के भोगने से संसार ग्राह नहीं बनता, अपितु संसार के भोगों में लिप्त होने से संसार ग्राह बन जाता है। यह न होने देना चाहिये। यही मन्त्र का अभिप्राय है।

ईर्षा मननशक्ति को मार देती है

यथा भूमिर्मृतमना मृतान्मृतमनस्तरा। यथोत मम्रुषो मन एवेर्ष्योर्मृतं मनः॥ अथर्व० ६। १८। २॥

(यथा) जैसे (भूमिः) पृथिवी (मृतमनाः) मननशक्ति से शून्य है, (मृतात्) मुर्दे से भी अधिक (मृतमनस्तरा) मननशक्ति से शून्य है। (उत) तथा (यथा) जैसे (मम्रुषः) मरे हुए का (मनः) मन होता है (एवा) इसी प्रकार (ईर्ष्योः) ईर्षा करने वाले का (मनः) मन (मृतम्) मरा हुआ होता है॥

भावार्थः—(१) ईर्ष्या कहते हैं "पराभ्युदयासहनम्" दूसरे के अभ्युदय अर्थात् उन्नति को न सहना ईर्ष्या कहाती है।

(२) ईर्षा की चित्तवृत्ति से बहुत हानियां होती हैं। यथा-(क) वेद में ईर्षा को "हृदय्य अग्नि" अथर्व० ६। १८। २॥ कहा है। हृदय्य अग्नि का अर्थ है हृदय की आग। ईर्षा वा-

स्तव में अग्निरूप है। यह प्रेमभाव को भस्मीभूत कर देती है। (ख) मनुष्य ईर्ष्याबद्ध होकर कर्तव्य और अकर्तव्य के विवेक से शून्य हो जाता है। (ग) ईर्ष्यावृत्ति के कारण मनुष्य में न्यायवृत्ति नहीं रहती। (घ) और उस में स्वार्थ की मात्रा दिनों दिन बढ़ती जाती है। (ङ) वह दूसरे को नुक़सान पहुंचाने में धर्माधर्म के मार्ग का ख्याल नहीं करता। (च) लोकलज्जा की भी उसे परवाह नहीं रहती।

(३) ईर्ष्या का ऐतिहासिक दृष्टान्त यदि चाहिये तो हम दुर्योधन को पेश कर सकते हैं। उस के सुवीर होते हुए भी, जो वह दुर्गुणों की खान बना हुआ था. उस में मूल उस का ईर्ष्याभाव ही था। अतः ईर्ष्या से सर्वदा दूर रहना चाहिये।

(४) ईर्ष्या से मन मारा जाता है। ईर्ष्यालु में मननशक्ति नहीं रहती। मननशक्ति और विचारशक्ति का अभिप्राय एक ही है। इस अवस्था को समझाने के लिये मन्त्र में दो दृष्टान्त दिये हैं, एक तो भूमि का और दूसरा मनुष्य का। भूमि अर्थात् मट्टी में मननशक्ति नहीं होती। मट्टी में कभी भी मननशक्ति नहीं हुई वह मृतमना है। उस में मननशक्ति हमेशा से मरी हुई है। अतएव वह मृतों से भी मृतमनस्तर है। मृतों में मरने से पूर्व तो मननशक्ति रहती ही है। मरने पर

उन में मननशक्ति नहीं रहती। मट्टी मरे हुओं की अपेक्षा भी अधिक मरे हुए मन वाली है। यतः इस के साथ मननशक्ति का कभी भी सम्बन्ध नहीं हुआ। मट्टी में मननशक्ति का लेशमात्र भी नहीं। अतः वह मृतान्मृतमनस्तर है। वह मनुष्य जो प्रथमतः ही ईर्ष्यालु है, जिस में ईर्ष्या के कारण मननशक्ति का अंकुर उगा ही नहीं, वह मट्टी के समान है। मट्टी जिस प्रकार विचार शक्ति से हमेशा से शून्य है वैसे ही वह मनुष्य भी विचार-शक्ति से हमेशा से शून्य रहता है जो उत्पत्ति काल से ही ईर्ष्यालु है। दूसरा दृष्टान्त है मनुष का। मनुष का अर्थ है मर गया हुआ। जो कि पहिले जीवित था, पर अब जीवित नहीं। अर्थात् जिस में जीवितावस्था में मन काम करता था, परन्तु अब मृतावस्था में वह काम नहीं करता। इसी प्रकार की अवस्था उस मनुष्य की हो जाती है जो कि पहिले तो ईर्ष्यालु न था, किन्तु अब किसी कारण से ईर्ष्या वाला हो गया है। मनुष्य जब तक ईर्ष्यालु नहीं तब तक वह जीवित मनुष्य के समान है जिस में कि मन कार्य कर रहा है, परन्तु मनुष्य जब ईर्ष्यालु हो जाता है तब वह उस मनुष्य के समान हो जाता है, जो कि मरा हुआ है। जिस में अब मन काम नहीं करता। जो कि अब लोथमात्र शेष रह गया है। वास्तव में ईर्ष्यालु मनुष्य मट्टी और लोथ के समान है। ई-र्ष्यालु मनुष्य का मन बिलकुल मारा जाता है। ईर्ष्या से ज-

रुके रहने के कारण उस के मन का पूर्ण विकास नहीं हो सकता। अतः ईर्ष्यावृत्ति से अवश्य छुटकारा पाना चाहिये।

वैदिक मेधा से दिव्य गुणों की रक्षा

मेधामहं प्रथमां ब्रह्मण्वतीं ब्रह्मजूतामृषिष्टुताम्। प्रपीतां ब्रह्मचारिभिः देवानामवसे हुवे॥ अथर्व० ६। १०८। २॥

(अहम्) मैं (प्रथमाम्) अनादि (ब्रह्मण्वतीम्) वेद-प्रतिपादित (ब्रह्मजूताम्) ब्रह्मज्ञानियों द्वारा सेवित (ऋषिष्टुताम्) ऋषियों द्वारा प्रशंसित (ब्रह्मचारिभिः) ब्रह्मचारियों द्वारा (प्रपीताम्) अच्छे प्रकार पान की गई (मेधाम्) मेधा का (देवानाम्) दिव्यगुणों की (अवसे) रक्षा के लिये (हुवे) आह्वान करता हूं॥

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(१) जूति का अर्थ है—गति तथा प्रीति, निरु० १०। २८॥ (२) पा=पीना।

भावार्थः—इस मन्त्र में उस मेधा का वर्णन किया है जिस का वेद में प्रतिपादन है। वह अनादि काल से वर्तमान है चूंकि वेद अनादि हैं। ब्रह्मज्ञानी लोग ऐसी मेधा का ही सेवन करते हैं। ऋषिजन ऐसी मेधा की ही स्तुति करते हैं। ब्रह्मचारी इसी वैदिक मेधा की प्राप्ति के लिये तप तथा ब्रह्मचर्यव्रत में निष्ठावान् होते हैं। इसी मेधा की प्राप्ति से हम में दिव्यगुण आ सकते हैं। मनुष्यगत दिव्यगुणों की रक्षा इस मेधा की प्राप्ति के विना असम्भव है। इस वैदिक मेधा की प्राप्ति के लिये वेदों का स्वाध्याय नित्य करना चाहिये।

मन, वाणी और कर्म में मधुरता

जिह्वाया अग्रे मधु मे जिह्वामूले मधूलकम्। ममेदह क्रतावसो मम चित्तमुपायसि॥ अथर्व० १।३४।२॥

(मम) मेरी (जिह्वायाः) जिह्वा के (अग्रे) अगले भाग पर (मधु) मधु हो, (जिह्वामूले) और जिह्वा की जड़ में (मधूलकम्) माधुर्य्य हो। हे माधुर्य्य! तू (मम) मेरे (क्रतौ) कर्म में (अह) अवश्य (इत्) ही (असः) हो, (मम) मेरे (चित्तम्) चित्त में (उपायसि) तू प्राप्त होता है॥

(१) क्रतु=कर्म, निघं० २।१॥

भावार्थः—(१) इस मन्त्र में यह दर्शाया है कि माधुर्य की प्राप्ति के लिये दृढ़-इच्छा-शक्ति या दृढ़-संकल्प का प्रयोग करना चाहिये। यदि मनुष्य दृढ़-संकल्प करले कि मैंने कभी भी कटु-वचन नहीं बोलने, सर्वदा मधुर वचन ही बोलने हैं, तो वह मनुष्य कटुवचनों पर या अपनी वाणी पर अवश्य विजय पालेगा।

(२) मन्त्र में जिह्वा, क्रतु और चित्त इन तीन का वर्णन है। परन्तु इनका आर्थिक क्रम निम्नप्रकार से होना चाहिये, चित्त—जिह्वा—क्रतु। जैसे कि कहा है "*यन्मनसा मनुते तद्वाचा वदति यद्वाचा वदति तत्कर्मणा करोति*"। अर्थात् मनुष्य मन से जिस का मनन करता है उसे वह वाणी द्वारा बोलता है, और जो वाणी द्वारा बोलता है उसे कर्म से करता है। मन्त्र में चित्त शब्द से मन का, जिह्वा से वाणी का और क्रतु से कर्म का ग्रहण करना चाहिये। अतः इस मन्त्र में मन, वाणी, और कर्म इन तीनों की मधुरता का वर्णन है। इस मधुरता के लिये किसी बाह्य औषध की आवश्यकता नहीं। और न कोई ऐसी बाह्य औषध है भी कि जिस के खान पान से मनुष्य दूसरों के लिये भला सोचने, बोलने और करने लग जाय। इस के लिये तो आन्तरिक औषध ही चाहिये। उसी के निरन्तर श्रद्धापूर्वक सेवन से मधुरता हमें मिल-

सकती है। यह आन्तरिक औषध, दृढ़ इच्छा-शक्ति या दृढ़ संकल्पमात्र ही है।

माधुर्यमय जीवन

मधोरस्मि मधुतरो मदुघान्मधुमत्तरः । मामित्किल त्वं वनाः शाखां मधुमतीमिव ॥ अथर्व० १ । ३४ । ४ ॥

(मधोः) मधु से (मधुतरः) अधिक मधुर (अस्मि) मैं हूं, (मदुघात्) मधुभरे पदार्थ से (मधुमत्तरः) मैं अधिक मधुर हूं । हे मधु ! (त्वं) तू (माम्) मुझ को (इत्) अवश्य (वनाः) प्राप्त हो, (इव) जैसे (मधुमतीम्) मधु वाली (शाखाम्) शाखा को मधु प्राप्त होता है ॥

भावार्थः—मधु का अर्थ है शहद, जिसे माख्यों भी कहते हैं । मनुष्य अपने चित्त में ऐसी भावना करे कि मैं वास्तव में शहद से भी मीठा हूँ । और शहद-भरे पदार्थ से भी अधिक मीठा हूँ । जो पदार्थ अङ्ग-प्रत्यंग में शहद से व्याप्त हो रहा है मैं उस से भी अधिक मधुर हूँ ऐसी भावना करने पर मनुष्य अवश्य ही अपने विचारों, वचनों और कर्मों में मधुर बन जायगा । भावना में बड़ी शक्ति होती है । प्रबल भा-

बना के फलों का यदि अनुभव करना हो तो योगदर्शन का सिद्धि-पाद देखो। मनुष्य को अपने हरएक अवयव को ऐसा मधुर बनाना चाहिये जैसे किसी मधुभरी शाखा का प्रत्येक अवयव। विना मधुरता के यह देह नीरस स्थाणुरूप है।

चेष्टा, स्वाध्याय और वाणी में माधुर्य

मधुमन्मे विक्रमणं मधुमन्मे परायणम्। वाचा वदामि मधुमद् भूयासं मधुसंदृशः॥ अथर्व० १। ३४। ३॥

(मे) मेरा (विक्रमणम्) पादविक्षेप अर्थात् चलना फिरना (मधुमत्) मधुर हो, (मे) मेरा (परायणम्) स्वाध्याय (मधुमत्) मधुर हो। (वाचा) वाणी से (मधुमत्) मधुर (वदामि) मैं बोलता हूँ, (मधुसंदृशः) मधुदृष्टि या मधु के सदृश (भूयासम्) मैं हो जाऊँ॥

भावार्थः—(१) इस मंत्र में भी भावना का वर्णन है। मधुर बनने की भावना को प्रबल बनाना चाहिये। चलने फिरने, उठने बैठने में मधुरता होनी चाहिये।

(२) स्वाध्याय में मधुरता का अभिप्राय है कर्कश आवाज से न पढ़ना। पढ़ने में अतिशीघ्रता, अस्पष्टोच्चारण, शब्दों का मध्य मध्य में अनुच्चारण आदि दोष भी स्वाध्याय में माधुर्य गुण के विरोधी हैं।

-ा से भी मीठा बोलना चाहिये ।

(४) क्रूरदृष्टि मनुष्य मधुरदृष्टि नहीं हो सकते। मधुरदृष्टि वे मनुष्य होते हैं जिनकी आंखों से प्रेमधारा निकले। मनुष्य के प्रत्येक अङ्ग में मधुरता होनी चाहिये । उसे अपने आप को मधुरूप बनाना चाहिये । मधु जिस प्रकार मीठा होता है उसी प्रकार व्यवहार में जिस के सारे अङ्ग दूसरों के लिये मीठे हैं वह मधुरूप कहलाता है ।

जीवन की सात मर्यादाएं

सप्त मर्यादाः कवयस्ततक्षुस्तासामिदेकामभ्यंहुरोऽगात् । आयोर्ह स्कम्भ उपमस्य नीडे पथां विसर्गे धरुणेषु तस्थौ ॥ अथर्व० ५ । १ । ६ ॥

(कवयः) ऋषियों ने (सप्त) सात (मर्यादाः) मर्यादाएं अर्थात् सीमाएं (ततक्षुः) बनाई हैं, (तासाम्) उनमें से (एकाम्) एक को (इद्) भी (अभ्यगात्) जो प्राप्त होता है वह (अंहुरः) पापी होता है । (स्कम्भः) स्कम्भरूप परमात्मा (उपमस्य) उपमीभूत (आयोः) मनुष्य के (नीडे) हृदयरूपी घोंसले में, (पथां) मार्गों

की (विसर्गे) समाप्ति पर और (धरुणेषु) धारक वस्तुओं में (तस्थौ) स्थित है ॥

भावार्थः—(१) मनुष्य के जीवन के लिये वेद ने ७ मर्यादाएं निश्चित की हैं। जिनका वर्णन यास्कमुनि ने निरुक्त में किया है। वे निम्नलिखित हैं–(१) स्तेय=चोरी, (२) तल्पारोहण=व्यभिचार, (३) ब्रह्महत्या=नास्तिकता, (४) भ्रूण-हत्या=गर्भघात, (५) सुरापान=शराब पीना, (६) दुष्टस्य कर्मणः पुनः पुनः सेवा=दुष्ट कर्म का वार वार सेवन, (७) पातकेऽनृतोद्यम्=पाप करने के बाद उसे छिपाने के लिये झूठ बोलना। मर्यादा कहते हैं सीमा को। कर्तव्य-शास्त्र की ये सात सीमाएं हैं। कर्तव्य-शास्त्र इन सीमाओं के अन्दर रहता है। इन हद्दों का अतिक्रम न करना सत्कर्तव्य या धर्म है।

(२) इन मर्यादाओं में से एक मर्यादा का भी जो उल्लंघन करता है वह पापी होता है।

(३) जो इन सातों मर्यादाओं में रहता है वह परमात्मा का उपम अर्थात् अधिक सदृश बन जाता है। परमात्मा में और उस में परस्पर उपमानोपमेय भाव हो जाता है।

(४) परमात्मा जो स्कम्भरूप अर्थात् भुवनप्रासाद का स्तम्भरूप है, वह उपमीभूत मनुष्य के हृदय-नीड में रहता है।

इसी हृदय-मन्दिर में मर्यादाबद्ध मनुष्य परमात्मा का भजन और उस का प्रत्यक्ष कर सकता है ।

मनुष्य के हृदय में ही परमात्मा का भान क्यों होता है, इस प्रश्न के उत्तर के लिये ही मंत्र में "उपमस्य" यह पद दिया है । जीवात्मा की उपमा परमात्मा से और परमात्मा की जीवात्मा से है । ये दोनों ही अप्राकृतिक हैं, प्रकृति से विलक्षण हैं । इसीलिये वेद तथा उपनिषदों में प्रकृति-वृक्ष पर बैठे दो पक्षियों से जीवात्मा और परमात्मा को रूपित किया गया है । रूपक का अभिप्राय यही है कि जीवात्मा और परमात्मा परस्पर सदृश हैं और प्रकृति से विलक्षण हैं । तभी तो जीवात्मा और परमात्मा में परस्पर सादृश्य, अर्थात् उपमानोपमेय भाव है । जब साधारण जीवात्मा जो कि मनुष्य की देह में है, परमात्मा के साथ सादृश्य रखता है, तब मनुष्य का वह आत्मा तो, जिसने कि सात मर्यादाओं में रह कर अपने आप को पवित्र कर लिया है, अवश्य ही परमात्मा का उपमीभूत होना चाहिये ।

(५) परमात्मा पथों की समाप्ति पर है । सभी धर्मपन्थों का केन्द्र-स्थान वेद है । इसी केन्द्र से धर्म के भिन्न भिन्न पथ निकले हैं । इन सब पथों का विसर्ग अर्थात् समाप्ति वेद पर होती है । इसी समाप्ति पर परमात्मा बैठा हुआ है । अर्थात परमात्मा के सत्यस्वरूप का ज्ञान सब धर्मपथों के केन्द्रीभूत वेदों द्वारा ही

सम्भव है। "*पथां विसर्गे*" का एक और अभिप्राय भी सम्भव है। वेदों में जगत् और ब्रह्म में व्याप्यव्यापकता दिखलाई है। जगत् व्याप्य और ब्रह्म व्यापक है। ब्रह्म में जगत् व्यापक नहीं। अपि तु सम्पूर्ण जगत् ब्रह्म के एकदेश में विद्यमान रहता है। इसी आशय को अधिक स्पष्ट करने के लिये वेदों में ब्रह्म और जगत् की दैशिक सत्ता का दृष्टान्त नीड और वृक्ष दिया जाता है। उसमें ब्रह्म को वृक्ष और जगत् को नीड बताया है। नीड कहते हैं घोंसले को। घोंसला वृक्ष के एक देश पर आश्रित रहता है और वृक्ष घोंसले से बहुत बड़ा होता है। इसी प्रकार परमात्मा रूपी वृक्ष इस जगत् रूपी नीड का आश्रय है और जगत् से बहुत बड़ा है। ग्रह, उपग्रह, नक्षत्र, तारादिकों के समुदाय को ही जगत् कहते हैं। ये ग्रह नक्षत्रादि अपने अपने नियत पथों पर घूम रहे हैं। इन में से कोई भी विपथगामी नहीं होता। अतः जहां जहां जगत् की सत्ता है वहां वहां हम पथों की सत्ता की कल्पना भी कर सकते हैं। परन्तु जहां जगत् की अन्तिम सीमा है, जिस से परे जगत् की सत्ता नहीं, वहां पृथिव्यादि के घूमने का कोई पथ भी नहीं, यह स्पष्ट है। वह स्थान 'पथां विसर्ग' है। वहां पथों का विसर्ग अर्थात् समाप्ति हो जाती है। उस से आगे कोई पथ नहीं। परन्तु परमात्मा वहां भी विद्यमान है। अतः परमात्मा की स्थिति '*पथां विसर्ग*' पर भी है।

(६) वह स्कम्भ रूप परमात्मा धारक पदार्थों में भी स्थित है। स्कम्भ का अर्थ है—धारण करने वाला, थामने वाला। परमात्मा के स्कम्भरूप का वर्णन अथर्व० १०, ७ में बहुत उत्तम शब्दों में किया है। सूर्य, चन्द्र, नक्षत्र, तारा, वायु, पृथिवी आदि पदार्थ संसार में धारक रूप से प्रसिद्ध हैं। ये सब प्राणी जगत् के तथा परस्पर के धारण करने वाले हैं। परमात्मा इन धारकों का भी धारक है। वह इन धारकों में भी स्कम्भरूप (धारक रूप) से स्थित है। अर्थात् संसार का मूलाधार या मूलधारक परमात्मा ही है। अतः भक्ति, उपासना और मनन इसी महान् शक्ति का करना चाहिये। चूंकि यह सर्वोच्च है, सर्वश्रेष्ठ है, सर्वाधार है।

सत्य और प्रियभाषण

यद्वदामि मधुमत्तद्वदामि यदीक्षे तद्वनन्ति मा। त्विषीमानस्मि जूतिमानवान्यान् हन्मि दोधतः ॥ अथर्व० १२।१।५८॥

(यद्) जो (वदामि) मैं बोलता हूं (मधुमत्) मीठा बोलता हूं, (तद्) वह (वदामि) बोलता हूं (यदीक्षे) जो देखता [illegible], ([illegible]) यह (मा) मुझ को (वनन्ति) उपदेश

(१) [illegible] द्दे। पैप्पलाद शाखा में वनन्ति के स्थान

देते हैं। (त्विषीमान्) तेजस्वी (अस्मि) हूं, (जूतिमान) क्रियाशील हूं, (दोधतः) क्रोधी (अन्यान्) शत्रुओं को (अवहन्मि) मार गिराता हूं ॥

भावार्थः—(१) यदीचे—मनुष्य कैसा बोले यह प्रश्न है ?। मन्त्र में उत्तर दिया है कि जैसा देखे वैसा बोले उलटा न बोले। अर्थात् सदैव सत्य बोले। (२) मधुमतः—प्रश्न हो सकता है कि क्या सत्य को कड़वे रूप में भी बोल दे, उत्तर है, नहीं। अपितु मीठा बोले। कड़वा न बोले। इस प्रकार बोले कि सत्य भी हो और मीठा भी हो।

(३) त्विषीमान्ः—मनुष्य तेजस्वी बने। सत्य के पालन से मनुष्य में तेज आ जाता है। इस तेज की प्राप्ति अवश्य करनी चाहिये।

(४) जूतिमान्ः—मनुष्य को क्रियाशील होना चाहिये। सुस्त होना और समय ख़राब करना मनुष्य के लिये उचित नहीं।

(५) दोधतः—क्रोधी शत्रुओं का नाश भी करना

में "वदन्तु" पाठ है। अन्य पुस्तकों में "वदन्ति" पाठ भी मिलता है॥ (१) जू गतौ॥ (२) दोधतिः क्रुध्यातकर्मा, निघं० २। १२॥

चाहिये। जिन के स्वभाव में ही क्रोध है ऐसे शत्रुओं के साथ उदासीनता या क्षमावृत्ति नहीं रखनी चाहिये।

सत्यवचनों के पूजारी बनो

को अद्य युंक्ते धुरि गाः ऋतस्य शिमीवतो भामिनो दुर्हृणायून्। आसन्निषून् हृत्स्वसो मयोभून् य एषां भृत्यामृणधत् स जीवात्॥ अथर्व० १८।१।६॥

(कः) कौन (अद्य) आज कल (शिमीवतः)[1] कर्म वाले (भामिनः)[2] तथा तेजःस्वरूप (ऋतस्य) सत्य की (धुरि) धुरा में (दुर्हृणायून्)[3] रोषयुक्त तथा (आसन्) मुख में (इषून्) बाणरूप (हृत्स्वसः) परन्तु हृदयों में लग जाने वाली (मयोभून्) [और परिणाम में] सुखोत्पादक (गाः)[4] वाणियों को (युंक्ते) जोड़ता है, (यः) जो मनुष्य (एषाम्) इन वाणियों की (भृत्याम्) नौकरी [सेवा या धारण] (ऋणधत्)[5] करता है (सः) वह (जीवात्) जीता है॥

(१) शिमी=कर्म, निघं० २।१॥ (२) भा दीप्तौ॥
(३) निघं० १।१७॥
(४) गो=वाणी, निघं० १।११॥
(५) ऋणद्धिः परिचरणकर्मा, निघं० ३।५॥

भावार्थः—(१) मन्त्र में ऋत का वर्णन गाड़ी रूप से किया गया है। धूः का अर्थ है—धुरा अर्थात् जुआ। गाः के दो अर्थ हैं, बैल और वाणियां। गाड़ी को चलाने के लिये गाड़ी की धुरा में बैल बांधे जाते हैं। ऋतरूपी गाड़ी के चलाने के लिये भी ऋत—गाड़ी के आगे वाणी रूपी बैलों को लगाना पड़ता है। ऋत अर्थात् सत्य के प्रचार के लिये ऋत की धुरा में वाणियां ही जुड़ती हैं। वचन द्वारा ही सत्य का प्रचार हो सकता है। सत्य की गाड़ी को, एक व्यक्ति से दूसरे व्यक्ति तक पहुंचाने के लिये, वचन रूपी बैलों की आवश्यकता होती है। चूंकि सच्चाई का प्रकाश वचनों द्वारा ही होता है।

(२) मन्त्र में ऋत के दो विशेषण दिये हैं—

(क) शिमीवतः, (ख) भामिनः। ये दोनों पद षष्ठी विभक्ति के एकवचन के रूप हैं, अतः 'ऋतस्य' के विशेषण हैं।

क—शिमीवान् का अर्थ है 'कर्मवाला'। शिमीवान् पद से सत्य का लक्षण किया गया है। सत्य वह है जो शिमीवान् है। रज्जु में हमें सर्प का ज्ञान हुआ। यह ज्ञान सत्य नहीं। क्योंकि यह ज्ञान कर्मवाला नहीं। यह ज्ञान कर्मवाला तब होता जब कि इस ज्ञान द्वारा दिखाये गये सर्प में सर्प के काम होते। अर्थात् यदि रज्जु में सर्प के गुणधर्म रहते। यतः सर्प के गुण-

धर्म रज्जु में नहीं अतः रज्जु में सर्प का ज्ञान भी सत्य नहीं। प्रत्येक ज्ञान का पर्यवसान कर्म में होता है। हान से ज्ञान (अनुपादेय जानकर छोड़ देना), उपादान (उपादेय जानकर ग्रहण कर लेना) या उपेक्षा (न लाभकर है, न हानिकर, यह जानकर उस वस्तु की उपेक्षा करना) हुआ करते हैं। रज्जु में जब सर्प का ज्ञान हुआ तब सर्पदृष्टि से यद्यपि वह रज्जु तात्कालिक हान का विषय बन जाती है, परन्तु प्रकाशादि की उपस्थिति होते ही वह रज्जु सर्प—ज्ञान का विषय भी नहीं रहती। परन्तु सर्प में सर्पज्ञान होने से प्रकाशादि के होने पर भी उस में हानबुद्धि बनी ही रहती है। उस बुद्धि का नाश प्रकाश की उपस्थिति में भी नहीं होता। अतः सर्प में सर्पबुद्धि तो सत्य है और रज्जु में सर्प—बुद्धि असत्य है। चूंकि पूर्व-बुद्धि कर्म वाली और दूसरी बुद्धि कर्म से शून्य है। अर्थात् पूर्वबुद्धि ने जो सर्प दिखाया है वह सर्प सर्प के कार्यों को कर सकता है और दूसरी बुद्धि ने जो सर्प दिखाया है वह सर्प सर्प के कार्यों को नहीं कर सकता। सत्य की परख कार्य से ही हुआ करती है। अतः सत्य वह है जो शिमीवान् है। इसी लक्षण को बौद्ध लोग "अर्थक्रियाकारित्वं सत्यत्वम्" इन शब्दों द्वारा निर्दिष्ट करते हैं।

(ख) सत्य का दूसरा विशेषण है—'भामिनः'। भामी का

अर्थ है "तेजयुक्त"। भा=दीप्ति, यथा प्रभा। सत्य, प्रकाश-स्वरूप है। और असत्य, अन्धकारस्वरूप। प्रकाश अन्धकार पर अवश्य विजय पाता है, इस सिद्धान्त के दर्शाने के लिये मन्त्र में सत्य का 'विशेषण' भामिनः दिया है। इस लिये ऊपर कहे दो विशेषणों से सत्य के दो गुण दिखाये हैं-(१) सत्य कर्म वाला है, (२) सत्यमार्ग प्रकाश का मार्ग है।

(३) बचे हुए विशेषण गाः पद के हैं। यथा—

(क) दुर्हणायून्, (ख) आसन्निपून्, (ग) हृत्स्वसः, (घ) मयोभून्। मन्त्र में गाः पद पुल्लिङ्ग है अतः इसके विशेषण भी पुल्लिङ्ग में रक्खे हैं। गांड़ी के आगे गौओं का लगाना वैदिक-सिद्धान्त के विरुद्ध है। गाड़ी के आगे बैलों को लगाना चाहिये न कि गौओं को। गाः पद के विशेषणों के अभिप्राय यथाक्रम निम्नलिखित हैं—

(क) दुर्हणायून। दुर् का अर्थ है—बुरा। हृणीङ् धातु का अर्थ है—रोष और लज्जा। वर्तमान स्थल में केवल रोष अर्थ का ग्रहण संगत प्रतीत होता है। अतः दुर्हणायु का अर्थ हुआ—बुरे रोषवाली या अधिक रोषवाली। सत्य की वाणियों में यतः छल कपट नहीं होता, वे ऋजु होती हैं, अतः वे उग्र या कठोर प्रतीत होती हैं। सत्यवादी यह परवाह नहीं करता कि उसकी वाणियां दूसरों को बुरी लगेंगी या अच्छी।

वह सत्य का प्रचार करता ही है। और चूँकि सर्वसाधारण जनों का व्यवहार असत्य पर अवलम्बित रहता है, अतः उन्हें सत्यवादी के वचन कठोर और रोषयुक्त प्रतीत होते हैं।

(ख) गाः का दूसरा विशेषण है—आसन्निषून्। आसन् पद अस्य शब्द की सप्तमी विभक्ति का रूप है। इषु का अर्थ है—बाण। अतः "आसन्निषून्" का अर्थ है—मुख में बाणरूप। सत्यवाणियों का यह स्वरूप वास्तव में यथार्थ है। सत्य वाणियां जब मुख में होती हैं अर्थात् जब वे बोली जाती हैं, तब असत्यवादियों को वे बाण के समान प्रतीत होती हैं। अतः सत्य वाणियों का यह विशेषण भी उचित ही है।

(ग) गाः का तीसरा विशेषण है—हृत्स्वसः। हृत्सु का अर्थ है—हृदयों में, और असः का अर्थ है—फेंके गये। अतः हृत्स्वसः का अर्थ हुआ—हृदयों में फेंके गये। सत्यवचन, बोलते समय भले ही कटु या कठोर प्रतीत हों तो भी श्रोता अपने हृदयों में उन वचनों की सच्चाई को अवश्य मानते हैं। वे वचन श्रोताओं के हृदयों में अवश्य फेंके जाते हैं। अर्थात् वे वचन उन के हृदयों में अवश्य घर कर लेते हैं। चाहे कई आदमी संसार में ऐसे भी मिल जायं जो हृदय में पत्थर सम होते हैं। उन में सम्भव है कि सत्यवचन अपना स्थान न भी बना सकें। तो भी जन साधारण ऐसे नहीं हो सकते। इसलिये

'हृत्सु' में बहुवचन रक्खा है। जो कि सर्वसाधारण का सूचक है।

(घ) गाः का चौथा विशेषण है—मयोभून्। जिसका अर्थ है—सुखों के उत्पादक। सत्यप्रचार, सत्यव्यवहार, सत्य-वचन और सत्यविचार का परिणाम सुख अवश्य है। चाहे वह सुख शीघ्र हो या देर में। अतः ऊपर के चार विशेषण सत्य की वाणियों में अच्छे प्रकार घटते हैं।

(४) मन्त्र के चौथे चरण में यह कहा है कि जो मनुष्य इन सत्यवाणियों की नौकरी स्वीकार करता है वही जीता है। नौकर वह है जो अपने स्वामी की आज्ञा में रहे। जो कि अपने स्वामी का भक्त हो। मनुष्यों को चाहिये कि वे सत्यवचनों को अपना स्वामी समझें और अपने आप को सत्यवचनों के नौकर। अर्थात् वे नौकर बनकर सत्यवचनों की सेवा—शुश्रूषा करने वाले हों और सदैव उन के आज्ञानुवर्त्ती हों। इस प्रकार जो मनुष्य सत्य का नौकर बन कर उसकी आज्ञाओं का सदा पालन करता है वह ही वास्तव में जीता है। उसी की दीर्घायु तथा उत्तम आयु होती है।

परमात्मा सत्यरक्षक और असत्यनाशक है

सुविज्ञानं चिकितुषे जनाय सच्चासच्च वचसी पस्पृधाते ।
तयोर्यत्सत्यं यतरदृजीयः तदित्सोमोऽवति हन्त्यासत् ।
अथर्व० ८ । ४ । १२ ॥

(चिकितुषे) तत्त्वज्ञानी (जनाय) मनुष्य के लिये (सुविज्ञानम्) यह सुविज्ञेय है कि (सत्) सत्य (च) और (असत्) असत्य (वचसी) वचन (पस्पृधाते) परस्पर विरुद्ध हैं । (तयोः) उन में (यत्) जो (सत्यम्) सत्यवचन है (यतरत्) और जो (ऋजीयः) अधिक ऋजु अर्थात् सरल है (तत्) उस की (इत्) ही (सोमः) प्रेरक परमात्मा (अवति) रक्षा करता है, और (असत्) असत्य का (आहन्ति) नाश करता है ॥

भावार्थः—इस मन्त्र में सत्य और असत्य सम्बन्धी चार सिद्धान्तों का वर्णन है ।

(१) सत्यवचन और असत्यवचन परस्पर विरोधी हैं ।

(२) असत्य की अपेक्षा सत्य अधिक ऋजु अर्थात् सरल है ।

(३) संसार का प्रेरक परमात्मा सत्य की रक्षा करता है ।

(४) वही परमात्मा असत्य का नाश करता है ।

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१ किती संज्ञाने । २ षू प्रेरणे ॥

परमात्मा पापी और हिंसक क्षत्रिय की वृद्धि नहीं करता, वह राक्षस और झूठे का नाश करता है

न वा उ सोमो वृजिनं हिनोति न क्षत्रियं मिथुया धारयन्तम् ।
हन्ति रक्षो हन्त्यासद्वदन्तमुभाविन्द्रस्य प्रसितौ शयाते ॥
अथर्व० ८ । ४ । १३ ॥

(सोमः) प्रेरक परमात्मा (वृजिनम्) पापी को (न वै उ) कभी भी नहीं (हिनोति) बढ़ाता, (न) और न (क्षत्रियम्) क्षत्रिय को (मिथुया) जो कि हिंसाव्यवहार को (धारयन्तम्) धारण करता है । (रक्षः) राक्षस को (आहन्ति) मारता है, (असत्) असत्य (वदन्तम्) बोलने वाले को (आहन्ति) मारता है । (उभौ) दोनों (इन्द्रस्य) इन्द्र के (प्रसितौ) बन्धन में (शयाते) शयन करते हैं ॥

भावार्थः—इस मन्त्र में निम्नलिखित भाव दर्शाए हैं—

(१) सोम अर्थात् जगत् का प्रेरक परमात्मा पापी जनों को कभी भी उच्च गति नहीं देता।

(२) वह अत्याचारी क्षत्रियों को भी उच्चगति नहीं देता।

(३) वह राक्षसवृत्ति वाले लोगों को मारता है ।

(४) वह असत्यवादी का नाश करता है ।

(५) ये सब इन्द्र अर्थात् जगत् के राजा परमात्मा के बन्धन में सर्वदा रहते हैं । अर्थात् इन्द्र इन के बुरे कर्मों का सदैव फल देता है । ये दुःखों से मुक्ति कभी भी नहीं पाते ।

परमात्माश्रय से वाणी का पाप-मोचन

यदुवक्थानृतं जिह्वया वृजिनं बहु ।
राज्ञस्त्वा सत्यधर्मणो मुञ्चामि वरुणादहम् ॥
अथर्व० १ । १० । ३ ॥

(यत्) जो (अनृतम्) झूठ और (बहु) बहुत प्रकार के (वृजिनम्) त्यागने योग्य पापवचन (जिह्वया) जिह्वा से (उवक्थ) तूने बोले हैं । (राज्ञः) सब संसार के राजा (सत्यधर्मणः) सत्यनियम वाले तथा (वरुणस्य) श्रेष्ठस्वरूप परमात्मा के आश्रय द्वारा (त्वा) तुझ को (अहम्) मैं (मुञ्चामि) उन पापों से छुड़ाता हूं ॥

भावार्थः—(१) इस मन्त्र में पिता अपने पुत्र को, या गुरु अपने शिष्य को अथवा उपदेशक किसी उपदेश्य व्यक्ति को कहता है कि तूने अपनी जिह्वा से जो झूठ या अन्य त्यागने योग्य दुर्वचन बोले हैं मैं तुझे उन दुर्वचनों से—संसार के राजा, सत्य नियमों वाले तथा श्रेष्ठस्वरूप परमात्मा के आश्रय

द्वारा—छुड़ाता हूं। "वरुणात्" पद में ल्यब्लोप पञ्चमी है। अतः वरुणात् का अर्थ है "वरुणमाश्रय्य" अर्थात् वरुण का आश्रय करके।

(२) वृजिन पद 'वृज्' धातु से बना है, जिसका अर्थ है—त्याग अर्थात छोड़ना। त्याज्य कर्मों के करने से पाप होता है अतः संस्कृत साहित्य में वृजिन पद का अर्थ ही पाप होता है।

(३) मन्त्र में वृजिन पद से जिह्वा के पापों का ग्रहण है। जिन में से अनृत को तो मन्त्र में ही लिखा है। अन्य भी कई जिह्वा के पाप होते हैं। यथा-(क) निन्दा करना, (ख) दुर्वचन बोलना, (ग) चुगली करना, (घ) कठोर बोलना, (ङ) असम्बद्ध वचनों का बोलना आदि। अनृत भी जिह्वा का पाप है जिसका मन्त्र में स्वपद से वर्णन किया है। मन्त्र में अनृत को स्वपद से इसलिये दर्शाया है चूंकि अनृतभाषण महापाप है।

(४) अब प्रश्न पैदा होता है कि जिह्वा के इन पापों से छुटकारा कैसे हो?। मन्त्र में बताया है कि परमात्मा का आश्रय वाणी के पापों से मुक्ति देने वाला है। यतः परमात्मा वरुण अर्थात् श्रेष्ठ है, अतः उस के आश्रय और सङ्ग से हम में श्रेष्ठता पैदा होगी। परमात्मा के धर्म सत्य हैं अतः उस के संग से हम भी सत्यधर्मा बन जायेंगे। हम से अनृत छूट

जायगा। परमात्मा सब का राजा है अतः श्रेष्ठता और सच्चाई के गुणों को अपने में रख कर हम भी संसार के धार्मिक राजा बन सकते हैं। परमात्मा के आश्रय से इसी प्रकार जिह्वा के अन्य पाप भी छूट सकते हैं। यजुर्वेद में लिखा है कि "वाचो मे विश्वभेषजः"। अर्थात् हे प्रभो! आप ही मेरी वाणी के रोगों के मुख्य औषध हो। अनृतभाषण आदि दोष ही वाणी के रोग हैं। अतः माता पिताओं, गुरुओं और उपदेशकों को चाहिये कि वे पुत्रों, शिष्यों तथा श्रोताओं को परमात्मा के भक्त बनावें। परमात्मा के सत्सङ्ग से वे अपने सब प्रकार के इन्द्रिय-मलों का निवारण कर सकेंगे।

सत्य का त्रैवार्षिक व्रत

यदर्वाचीनं त्रैहायनादनृतं किं चोदिम।
आपो मा तस्मात्सर्वस्मात् दुरितात्पान्त्वंहसः॥
अथर्व० १० । ५ । २२॥

(त्रैहायनात्) तीन वर्षों से (अर्वाचिनम्) इधर इधर (यद्) जो (किं च) कोई (अनृतम्) झूठ (ऊदिम) हमने बोला है। (आपः) व्यापक परमात्मा (मा) मेरी (तस्मात्) उस अनृतरूपी (दुरितात्) दुष्फल (अंहसः) पाप से तथा (सर्वस्मात्) अन्य सब दुष्फल पापों से (पान्तु) रक्षा करे॥

भावार्थः—(१) इस मन्त्र में "त्रैहायन–अनृतव्रत" का वर्णन है। त्रि=तीन, हायन=वर्ष। तीन वर्ष लगातार झूठ न बोलने के व्रत का नाम "त्रैहायनानृतव्रत" है। यह अभ्यास की एक कोटि है। व्यक्ति जब देख ले कि गत तीन वर्षों में, मैं अपने व्रत में सफल हो गया हूं, तो वह "त्रैहा-यनानृतव्रत" के लिये फिर दूसरी वार भी प्रण करे। इस प्रकार करते करते मनुष्य जीवनानृतव्रत की अवधि तक भी पहुंच सकता है। हमारी अवस्था इतनी गिर गई है, कि हमारे लिये सत्य का घण्टा–व्रत करना भी दूभर है।

(२) कई व्यक्ति इकट्ठे मिलकर यदि ऐसे व्रतों को करें, तो अधिक लाभ होता है। इस से व्रतपालन में, एक दूसरे की सहायता तथा एक दूसरे पर नजर हो सकती है। इस भाव के दर्शाने के लिये ही सम्भवतः "ऊदिम" में बहु-वचन दिया है।

(३) झूठ बोलने का फल बुरा होता है। झूठ बोलना एक दुष्कर्म है। अतः यह दुष्फल भी है। मन्त्र में दुरित पद का भी यही भाव है। दुर्=बुरा, इत=फल। अतः दुरित= दुष्फल कर्म।

(४) झूठ बोलने से पाप होता है, इसीलिये मन्त्र में अनृत को 'अंहस' कहा है। अंहस् का अर्थ है पाप।

(५) पाप मनुष्य को मार डालता है, यह भाव अंहस् पद से सूचित होता है। अंहस् पद 'हन्' धातु से बना है जिस का अर्थ है हिंसा।

(६) इसी प्रकार अन्य दुष्कर्म भी दुष्फल तथा पापजनक होते हैं। (सर्वस्मात्)

(७) अनेक व्यक्ति मिल कर चाहे ऐसे व्रतों को करें। परन्तु आत्म-निरीक्षण प्रत्येक व्यक्ति का पृथक् २ कर्त्तव्य है। आत्म-निरीक्षण में प्रत्येक व्यक्ति अपनी मदद आप ही कर सकता है। और आत्म-निरीक्षण करते हुए यदि अपने व्रत के पालन में कहीं त्रुटि दीख पड़े तो मनुष्य उसे दूर करने के लिये परमात्मा से शक्ति की प्रार्थना करे। इस वैयक्तिक आत्म-निरीक्षण के लिये ही मन्त्र में "मा" पद भी दिया है जो कि एकवचन है।

आत्मिक प्रकाश

यथा मधु मधुकृतः संभरन्ति मधावधि।
एवा मे अश्विना वर्च आत्मनि ध्रियताम्॥

अथर्व० ९।१।१६॥

(यथा) जैसे (मधुकृतः) मधुकर अर्थात् भौंरे (मधावधि) मधु के छत्ते में (मधु) मधु को (संभरन्ति) इकट्ठा

करते हैं। (एवा) इसी प्रकार (अश्विना) हे अश्विदेवताओ! (मे) मेरे (आत्मनि) आत्मा में (वर्चः) कान्ति (ध्रियसाम्) स्थापित कीजिये ॥

भावार्थः—(१) मन्त्र में वर्च की प्राप्ति का वर्णन है। वर्च का अर्थ है—कान्ति, तेज। निरुक्तकार ने अश्विदेवता के वर्णन में 'अश्विनौ' का अर्थ "सूर्याचन्द्रमसौ" भी दिया है। यथाः—तत्कावश्विनौ। सूर्याचन्द्रमसावित्येके ॥ १२। १ ॥ सूर्य और चन्द्र दोनों वर्चस्वी हैं, कान्तिमय हैं। और वर्च की प्राप्ति में उन्हीं को आदर्श माना जा सकता है, जो कि स्वयं भी वर्चस्वी हों। अतः इस मन्त्र में अश्विनौ से सूर्य और चन्द्र का ग्रहण करना ही उत्तम होगा। अभिप्राय यह है कि जिस प्रकार मधु-छत्ता मधु से लबालब भरा होता है, उसी प्रकार मेरा आत्मा सूर्य और चन्द्र की कान्ति से अभिव्याप्त हो।

(२) संभरन्ति=सम्+हरन्ति। 'हृग्रहोर्भः छन्दसि, इस से ह को भ हुआ। भौंरे इकट्ठे होकर मधु के छत्ते को मधु से भरते हैं। इसी प्रकार सूर्य और चन्द्र इकट्ठे होकर मुझ में वर्च स्थापित करें। सूर्य का वर्च एक प्रकार का है और चन्द्र का दूसरे प्रकार का। सूर्य के वर्च में तीक्ष्णता है और चन्द्र के वर्च में सौम्यगुण है। मनुष्य के आत्मा में भी दोनों प्रकार के ये वर्च होने चाहियें।

ईशोपनिषद् का स्वरूप।

जिस ब्रह्मज्ञानोत्पादक ग्रन्थ की प्रतीक्षा आर्य्यजगत् चिरकाल से कर रहा था वही छप कर तैयार है। इस में मन्त्रों के अर्थ, व्याख्या, संगति, दृष्टान्त आदि द्वारा स्पष्टतया समझाये गये हैं। स्वाध्यायशील तथा ईश्वरप्रेमी जनों के लिये अति उपयोगी है इस की उत्तमता के विषय में पाठकों के अवलोकनार्थ केवल यह एक सम्मति ज्यों की त्यों उद्धृत कर देते हैं।

"इस उपनिषद् के बहुतसे मंत्र मूल यजुर्वेद के ४० वें अध्याय में मिलते हैं। महर्षि दयानन्द के उत्तम भाष्य ने इस आदि उपनिषद् के मर्म का दर्शन कराते हुए श्री शङ्कराचार्यजी महाराज के मायावाद और नवीनवेदान्त को जड़ से हिला दिया था और वेदान्त का वैदिकस्वरूप सारगर्भित तथा आर्ष ढंग से दिखा दिया। इसी उपनिषद् का उत्तम अंग्रेजी व्याख्यान करते हुए महात्मा पं० गुरुदत्तजी ने यूरोप के भयंकर नास्तिकवाद के अन्धकार को दूर भगाया था।

स्व० लो० मा० तिलकजी के गीताभाष्य तथा काशी के बा० भगवानदासजी के अनेक अंग्रेजी लेखों ने 'नवीन-वेदान्त' को मानो फिर से आजकल जगा दिया है। ऐसे समय में वेदान्तमूलक इस उपनिषद् के यथार्थ तत्व को आर्य्यप्रजा में प्रचार करने की जरूरत थी। इस उपनिषद् का उत्तम भाष्य करते हुए पण्डित श्री प्रियरत्नजी ने बड़ी योग्यता से दिखा दिया है कि इस में नवीनवेदान्त नहीं है। आपने यह भी सिद्ध किया है कि विद्या, अविद्या, संभूति और असंभूति सम्बन्धी जो गूढ़ अर्थ ऋषि दयानन्दजी ने किये हैं वे व्याकरणशास्त्र तथा युक्तिसंगत हैं। पुस्तक मनन करने योग्य है।

समालोचक (राजरत्न मा० आत्मारामजी अमृतसरी बड़ौदा मू० ।=)

आत्मिक-उन्नति

के

विद्वान् लेखक

श्री० प्रोफेसर विश्वनाथजी विद्यालंकार

लिखित

वैदिक जीवन

नामक एक महत्त्वपूर्ण पुस्तक छप रही है।

"आत्मिक-उन्नति" से ही आप उस पुस्तक के विषय, लेखशैली और गम्भीर विचारप्रणाली का अनुमान कर सकते हैं।

आत्मिक-उन्नति

इसी "वैदिक-जीवन" का एक भाग है। मूल पुस्तक अथर्ववेद के मन्त्रों के आधार पर बड़ी योग्यता से लिखी गई है। शीघ्र ही प्रकाशित होगी। मूल्य होगा ।।।) मात्र।

मिलने का पता—महेश पुस्तकालय,

घसीटी बाज़ार

अजमेर.

control and influences. Similarly the ends of the system and he means are reciprocally related.

We may derive the three school types tracing the inter-cell relationships as follows :

	Pattern Maintenance and Tension Management	Integrative	Goal attainment	Adaptive
Type I	Teacher oriented	Coercive	elementary	custodial
Type II	Subject oriented	Utilitarian	preparatory	academic
Type III	Learner oriented	normative	developmental	missionar crusading

Type I

One of the largest problem facing any social system is that of maintaining its pattern of structure. And for this any social system must have processes of socialization whereby thecultural patterns of the system course be incorporated into the personalities of its members.

In the first type of school socialization or learning process is completely centred on the teacher as a representative of the system. There is no selection and all are accepted.

In this organization control is based on coersion. Compliance is forced upon the members andfailure to comply incurs punishment.

The adaptive function is custodial as it sees its goal as very limited or elementary. The student will not challenge status-quo.

Type II

The pupils accept the body of knowledge because of its relevance and usefulness. The teachers receives his authority because of his scholarship. Selection is introduced. The control rests on the utilitarian nature of education. The students will work hard to gain recognition. Students are more committed to the system. The goal is preparing competing individuals. Adaptive function is academic. Thus the degree of success of adaptive and goal achievement functions, such oriented to the environment external to the educational system, can be run by ousiders by permitting objective standard to be applied.

Type III

In the third school the learning process is all important. The goal is development of students. This is involved in the process as facilitation of the development of the pupil. The teacher needs training in sociological and psychological principles.

The integrative function has been called normative for securing control and integration. Normative control is exercised by the teacher. Collective punishment may be given.

The developmental goal seeks to adjust the process of socialization. To achieve the goal the teachers have to be missionary in slums and crusaders in suburbs. We may call them teacher social workers.

Thus the school can choose the adaptive function to adjust to "inflexible reality" or "actively transform the environment". In the first case the second out the school is agent of social continuity while in the second it is an agent of change.

The first two types are adjusting to inflexible reality while the third attempts to emphasize change.

Differentiation in Indian education System:

The educational system can be broadly characterised as having provided elementary education for working class children, secondary education for middle class children with a few exceptions and public education for children of upper and upper-middle classes. We also find conflicts in the education system between the needs of the pupils and parents and the needs of the system. There is conflict between cultural value outside the classroom and institutional expectations within the classroom.

EDUCATION FOR ALL BY 2000 - INDIAN PERSPECTIVE

Dr.P.C.Mahapatra,

INTRODUCTION

1.1. World Declation on Education for All

The World Conference of Education for All (WCEFA) was of particular significance because for the first time, four international agencies - the World Bank. UNESCO, UNDP and UNICEF and 155 Countries of the World converged in Jomtien. Thailand, to forge a global conscensus f or concerted action to provide Education for All (DFA) by the year 2000 A.D. The Conference unanimously adopted a "World charter on Education for All" and "A frame Work of Action to meet Basic learning Needs". These two documents spell out the global target and Action plan to make Education for All a reality by 2000 A.D.

The World charter asks for action for -

- good quality primary education for School age children with an emphasis on learning achievements rather than on years of schooling through primary schooling for out of school children.

- Basic knowledge and skills to allow youth and adult to improve their quality of life and their opportunities to participate in the benefit from social and economic development.

In the Frame Work for Action the following target were proposed and Countries were requested to set their own target in terms of the following proposed dimensions.

1. Expansion of Early Childhood care and developmental activities, including family and community interventions especially for poor, disadvantaged and disabled children.

2. Universal access to and completion of Primary Education by the year 2000.

3. Each country will ensure that at least 80% of 14 years old boys and girls attain a common level of learning achievements by the year 2000 A.D.

4. Reduction in adult illiteracy with sufficient emphasis on female literacy to significantly reduce the current disparity between male and female literacy rate.

5. Access to basis skills and knowledge for all.

The areas in the two documents are:-

- Universal accessibility, Universal participation and Universal attainment.
- Priority to education of Women, Girls and Weaker Sections of the society for removal of disparities and to equalise educational opportunities.
- Need to improve the quality of Education, specially learning attainments.
- Community participation and involvement of non-Governmental organisations.
- Non-formal alternative to Primary Education.

1.2 National Goals

The policy issue and strategies emphasised in the World Charter and Frame Work of Action are already part of our present priorities and thereby, serve to re-emphasise the need for accelerated effort in the direction in which we are headed. Our constitution framers (1950) had made Universalisation of elementary education, a National Commitment and non-negotiable objective. Article 45 states that "The State shall endeavour to provide within a period of ten years from the commencement of this constitution for free and compulsory education for all children until they complete the age of 14 years".

It expressed and ideal to which the whole nation was expected to commit itself. In the event, however this commitment and the resources which go with it were seriously deficient. The Education Commission (1964-66) indicated target in a similar time frame and it met the similar fate. The constitutional amendment 1976. which placed Education in the Concurrent list was a for reaching step whose implications - substantive, financial and administrative, require a sharing of responsibility between the Union Government and the State in respect of this vital area of National life.

Realising its relevance it became an important item of the Minimum Needs Programmes as well as 20-point programme of the State.

By 1986, the experience of planning of more than three and half decades had amply high lighted the diversity and complexity of the problems the Country had been facing in achieving the goal of basic education for all. Not with-standing this, National Policy on Education, 1986, better known as NPE'86 gave a new thrust to this aspect and emphasised Universal enrolment, Universal retention of children upto 14 years of age and a substantial improvement in the quality of education vis-a-vis the quality

of life. The Parliament in 1986 while approving the National Policy on Education, chose to approve the following formulation of the target, "it shall be ensured that all children who attain the age of 11 years by 1990 will have had five years of schooling or its equivalent through the Non-formal stream. Like-wise by 1995 all children will be provided free and compulsory education upto 14 years of age". Interstingly here again, the time frame of roughly a decade was chosen. The target fixed for 1990 could not be achieved. It appears that setting such a high targets, the Parliament like the Constituent Assembly, was reiterating its commitment to the ideal of education for all and was expressing its firm belief that education is the basic human right that can not be denied to any body.

If right from the beginning, it was apparent that target setting was unrealistic and un-achievable, they would not lead to the kind of motivation and resource mobilisation required. The right approach, therefore is to set realistic targets _ realistic not to be defined as easily achievable but as achievable, with concievable maximum input of meticulous planning and resources financial as well as human.

The target laid down by the CABE committee on priority durigg the Eight Five Year Plan in the area of U.E.E:

1.2.1. ACCESS

- Provision of Primary Schools for all children within one Kilometre of walking distance and of facility of non-formal education for school drop outs, working children and girls who can not attend schools.

- Universal enrolment of all children, including girls and persons belonging to SC/ST.

- Improvement of ratio of Primary school to Upper Primary Schools from the existing 1:4 to 1:2 since this is a pre-condition for larger opportunity for widening girls participation at Upper Primary Stage.

1.2.2. RETENTION

Reduction of drop out rates between classes I to V and I to VIII from the existing 45 percent and 60 percent to 20 peecent and 40 percent respectively.

1.2.3. ACHIEVEMENT

Achievement of a minimum level of learning by approximately all Children at Primary level, and introduction of this concept at the Upper Primary stage on a large scale.

1.2.4. PARTICIPATION IN MANAGEMENT

Local level committee with due representation to women and teachers, Youth Activists and NGOs to assist in the working of Primary Education and to oversee its functioning. Improvement of the monitoring system for Universalisation of elementary education to see the achievement of the above mentioned goals.

Enlarging the scope of Early Childhood care and Education and inclusion of ECCE in minimum needs programme like UEE, adult education with strong literacy component has to be one of the Central items on the National agenda. Instead of sectoral view of Primary schooling, non-formal education and adult education a holistic view may be adopted in educational planning. 'Right to Learn' and 'Right to Earn' (as Earn is included in the word learn) are more than a major challenge for all. The fact sheet enclosed will reveal the existing status of our country.

The major thrust of "Education for All" will be Access, Retention, and Achievements through participatory process.

Actions to be initiated :

- Integration of various facts of the EFA.
- Access to education for all to achieve universalization of elementary education (UEE)
- Reduction of dropouts.
- Achievement of minimum level of learnings.
- Building an environment for learning.
- Enlarging the scope of early childhood care and education (ECCE).
- Extending the facilities of education to adults by covering all districts under total literacy compaign districts.
- Adopting a holistic view of education.
- Ensuring effective participatory management with suitable representation of women and weaker sections

Phase-wise Targets :

- Ensuring access to primary education for all children (6-11 age group) during the 8th five year plan 1992 - 1997.
- Augmenting the ratio of primary schools to upper-pri schools from the existing 1:4 to 1:3 by 1997 and 1:2 by 2000 through upgradation of existing primary schools upto class-VIII.
- Enhancing the scope of ECCE, Pre-school to all the rural and urban areas.
- The dropouts raised between class-I to V from existing 46% to 20% by 1997 and 10% by 2000.
- Curtailing the dropout rates between class-I to VIII from existing 70% to 50% by 1977 and 30% by 2000.

- Extending the reach of the total literacy campaign to all the districts by 1977 and incorporating social and environmental awareness in such programmes.
- Identifying the existing learning system, and estimating the actual demand for education through surveys and micro planning.
- Involving the government, NGOs, educational institutions, communities, teacher organizations, and activists (especially SC/ST and females) in planning, execution, management, evaluation, and monitoring.
- Improving the training and working conditions of the teachers and their effectiveness.
- Utilizing the available resources at the optimum level.
- Granting autonomy to teachers and institutions to experiment with innovatve practices.

Present Scenatio :

A Kalidoscopic view of the present school system reveals a low level of efficiency. The schools of today are either ill or are innovative to such an extent that the human element is lost, the child is disoriented the teacher is burnt out, academic supervison or guidance is more or less dysfunctional, and the managers of the schools seldom meet the parents. The scope of interaction between the school and the community at large has been narrowed. The prevailing administrative patterm is not fully responsive to the present need. Teacher absenteeism, ineffectiveness, indifference, private coaching mindedness, and

politicking are also a matter of great concern. Inadequate indepth study and action research pertaining to management and supervision, week information-base, lack of exposure to training on the part of the educational planners and administrators, field functionaries and hiatus between the education and the real life situations and social values and dichotomy in the present educational supervision - structure (specially at the primary level) and politicisation of education institutions and systems are also deterrents to effective management. A recent study by NIEPA showed that in most of the schools, children in class-V could reach only mastery level learning set for class-V. Therefore, new inputs are to be syringed into the educational system to create humanistic transfusion in education and to make the system work.

Recommendations:

- Preparation of household education-status cands (ESC) through survey by involving local communities, NGOs, teachers and teachers' organisations.
- Streamlining micro-planning and block-mapping.

-Strengthening district-level planning with specific activities, clearly defined responsibilities, definite time-schedules and specific targets.

-Planning on education based on categorization of high, medium, and low literacy groups.

-Annexing ECCE units to local schools.

- Coordinating with different agencies and departments to avoid duplication.

-Strengthening information base through proper data base management.

-Making village-level education-committees functional through delegating authority and executive power.

-Establishing monitoring and coordinating committees at the gram-panchayat,block sub-division, and district level.

a) creating academic councils at different levels by involving educationists, and local activists.

b) organizing a task force for monitoring and providing feedback.

-Expanding the state advisory committee on education with a sub-committee on EFA.

- Creating a separate board for Elementation Education to offer qualitatives improvements.
- Pinpointing the minimum learning competency for the state for different grades keeping in view the national objective.
- Evolving educational complexes and school complexes for sharing of experiences.
- Classifying the schools on the basis of achievements and facilities, and thereby ensuring improvement (5 point scale)
- Strengthening the nodel/lead schools to provide leadership and coordination to peripheral schools.
- Establishing a separate institute in the states (on the pattern of NIEPA) to train educational planners and administrators.
- Considering in-service training and exposure - courses as pre-requisites for promotion and ensuring the necessary facilities are provided through block-resource centres (BRCs), Urban-resource-centres (URCs), and DIETs.
- Using the existing institutions as educational and cultural centres of the area.
- Utilzing the existing educations as educational institutions also for non-formal education.

- Introducing new shifts in the existing educational institutions to accommodate girls, working women, housewives, and out of the school children. (Non-formalising formal schools).
- Fostering continuity in education by utilizing each existing educational infrastructure to provide education from Class I to at least Class VIII.
- Preparing a uniform plan for low cost buildings which should be adhered to by each locality.
- Entrusting community with responsibility for construction and maintenance of the local buildings.
- Pooling of the resources from different development agencies/Programme (GP, TRW, CD, UD, Industries, Private & Public Sectors).
- Charging education department with the nodal role for EPA by ensuring that it receives support from other departments, private donors, funding agencies, and industrial sector.
- Functionalizing the educational development fund created under an Education Act.

- Exphasizing the pivotal role of teacher in implementation of any scheme under EFA by consulting and involving them at all phases of planning (both curricular and non-curricular) implementation and management.
- Appointing teachers, preferably the local ladies, and encouraging couples to teach at the same or adjacent schools; using the services of the wives of the local teachers for pre-school, NFE and AE, wherever feasible.
- Ensuring adequate remuneration and other amenities and providing proper accommodation through teachers' hostels.
- Strengthening teacher welfare funds.
- Erecting Sikshak Bhavan (Teacher Names) in Each district Headquarters.
- Encouraging NGOs and youth activists to be seriously associated with planning, monitoring, evaluation, awareness creation, motivation bldg. and running of pre-schools, ECCE, NFE, AE and continuing education.
- Involving retired educated people as visitors and resource persons.
- Developing adequate machinaries to redress teacher grievances.

- Noosting increased interaction between teachers through seminars and conferences; popularizing with creative ideas of institutions and teaches through news letters.
- Getting rid of the dichotomous administration at the block level and introducing academic inspection by involving subject expects.
- Imparting orientation facilities to all members of different committees Youth activists, and teachers involved with EFA.
- Organizing orientation programmes for different heads of departments and agencies : for interaction and linkages.
- Strengthening the management information system and data processing units from block level to the province and the country.
- Involving women at all levels of management, preferably/a as woman vice-chairman and chairman of committees.
- Strengthening the class room monitoring systems and student participatory council.
- Fostering community participation through parent-teacher committees and Home visits by teachers, and by inviting the committees for exchange of ideas.

- Developing student progress cards.

__Teacher's Education:__ The challenge of Education, 1985 made a statement,

> " We are on the threshold of development of new technologies likely to revolutionise teaching in classrooms. But unfortunately the process of updating the curricula of teacher education has become very slow. Much of teacher-education is irrelevant even to contemporary requirements, leave alone those of the future. We therefore, face a paradox of having better books and research but progressively more indifferent teachers.

Professional preparation of teachers in very recent years has become a commercial enterprise in spite of advances in educational theory and practice.

Recommendations of various committees and commissions have hardly made an impact in bringing quality changes in the system. These are matters of concern and reflection.

Teacher education has to be considered in toto ranging from pre-primary teacher education to secondary/ higher secondary teacher education and should take into account the following:

i) Nature of teacher training institutions.

ii) Recruitment/retention/promotion of teachers.

iii) Admission of students to teacher training institutions.

iv) Quality improvement in preservice teacher education and the need of inservice programme.

v) Teacher education curriculum.

vi) Methodology of teaching.

vii) Introduction of skills training.

viii) Development of skills and values through work.

ix) Evaluation of teacher education programme.

x) Research and development in teacher education.

xi) Linkage with education of 21st century.

General Information

Education For All

(Indian Context)

Total Population:

Total	:	843,930,861
Males	:	437,597,928
Females	:	406,332,933

Area in Sq. Km. 3287259

Densities Per Sq.Kms. : 267

Decennial Population growth: 23.50

Sex Ratio : 926

S.C.Population (1981) Census: 15.75%

S.T.Population (1981) Census: 7.76%

No.of Districts : 466

No. of Tahasils (1981) : 3342

No. of Gram Panchayats (1983):217339

No.of Blocks (1982): 5272

No. of Urban Areas : 3878

No. of villages : 575540

No. of Inhabited Villages : 539383

No. of Habitation : 979065

Total literates : 52.11%

Males : 63.85%

Females : 39.42%

Literate Population aged 7 years and above

Persons	Males	Females
361,713,246	230,150,363	131,562,883

Literacy

Total Literates (ST) (1981 Census) : 16.35

(SC) (1981 Census) : 21.38

Projected Child Population (1.3.1991) (in crores)

(All)

6-11 years	Total	...	9.81
	Boys	...	5.04
	Girls	...	4.77
11-14 years	Total	...	5.54
	Boys	...	2.84
	Girls	...	2.70

S.C.

6-11 years	Total	...	1.55
	Boys	...	0.79
	Girls	...	0.75
11-14 years	Total	...	0.87
	Boys	...	0.45
	Girls	...	0.43

S.T.

6-11 years	Total	...	0.76
	Boys	...	0.39
	Girls	...	0.37
11-14 years	Total	...	0.43
	Boys	...	0.22
	Girls	...	0.21

Number of Institutions	Enrolment	
Universities-146	Ph.D.DSC.D.Phil	- 32468
Institutions deemed as Universities - 28	M.A.	202831
	M.Sc.	71891
Institutions of National Importance-10	M.Com	79494
Board of Intermediate/ Secondary Education-35	B.A./B.A.(Hons)	1534348
	B.Sc./B.Sc.(Hons)	756896
Research Institutes-49	B.Com./B.Com(Hons)	994532
Arts,Science and Commerce College - 4862	B.E.|B.Sc.(Eng)B.Arch	241368
Teachers Training College - 474	B.Ed./B.T.	92217
	M.B.B.S.	84939

Number of Institutions

Intermediate Junior College - 5660

Engineering and Technology College-282

Medical College - 130

Higher Secondary Schools (10+2) - 13491

Secondary Schools-59468

Upper Primary Schools-146636

Primary Schools-5,58,392

Pre-Primary Institutions - 15,427

Teacher Training Schools - 1167

Poly Technic Institute - 879

Technical Industrial Art & Craft School-3693

Enrolment

Intermediate College	2481195
Pre degree (two years)	314295
Pre University	3815
Higher Secondary	3558615
High Schools	
Boys	9677878
Girls	4861604
Total	14539482
Upper Primary	
Boys	20844291
Girls	12438708
Total	33282999
Primary	
Boys	58094716
Girls	41023604
Total	99118320
Pre-Primary	
Boys	822812
Girls	687278
Total	1510090

Enrolment Ratio

		Net	
S.C.			
6-11 Class I-V Age group	Boys	85.68	
	Girls	55.60	
	Total	77.21	
11-14 Class-VI-VIII Age group	Boys	54.40	
	Girls	26.28	
	Total	40.71	
S.C.			
6-11 Age group Class-I-V	Boys	80.78	
	Girls	48.60	
	Total	73.35	
11-14 Age group Class-VI-VIII	Boys	51.33	44.33
	Girls	27.50	20.50
	Total	30.72	23.72

Budget Expenditure

1990-91 (in lakhs)

		% of Education Budget to total Budget.
Plan	131893	
Non Plan	1318424	
Total	1450317	20%

Percentage of Sector wise Expenditure in 7th Plan

Elementary Education	49.5%
Secondary Education	32.7%
Special Education	1.4%
University & Higher Educa-tion	12.2%

Technical Education	2.8%
Other	1.3%

Per Capita Expenditure on Education Rs.145.95

Gross Enrolment Ratio (All)			Net Enrolment Ratio
Class I-V	6-11 age group		
	Boys	115.29%	90.29%
	Girls	85.97	60.97%
	Total	101.03	76.03%
	<u>11-14 Age group</u>		
Class VI-VIII	Boys	73.38	66.38
	Girls	46.13	39.13
	Total	60.11	53.11

<u>Teacher-Pupil Ratio</u>

Secondary Schools	1 : 31
Upper Primary School	1 : 37
Primary Schools -	1 : 42

<u>Teachers</u>

	Male	Female	Total	%of Trained Teachers.
Secondary School	535050	271276	806326	90%
Upper Primary schools.	706483	352812	1059295	91%
Primary Schools	1166484	470414	1636898	90%

	Class VI - VIII			Class I - V		
	Males	Females	Total	Males	Females	Total
S.C.	2747100	1413416	4160516	9736924	6057503	15794427
S.T.	1131388	575518	1706906	4957611	2910576	7868187

Deficiencies (1986)

Access 6% habitations have no primary school within 1 km.

17% habitations have no upper primary school with 3 km.

5.4% of rural population have no Primay schooling facilities.

15% of rural population have no upper primary facilities.

Building less - Primary Schools 8%

Building less - Middle Schools 3.14%

Teachers 34% of Primary Schools are single teacher schools

27% of Primary schools are double teachers schools

Drop outs/Forced outs (Approximate)

I - V	Total	-	46%
	Girls	-	50%
	Boys	-	42%
I - VIII	Total	-	63.60
	Girls	-	69.70
	Boys	-	57.50

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QUALITY, QUANTITY AND EQUALITY: PROBLEMS OF MEASUREMENT

Dr.D.K.Bhattacharya

1. Introduction

The primary attributes of educational development are:

i. Accesibility

ii. Availability

iii. Quantity

iv. Quality

v. Equality

vi. Interconnectivity

vii. Level of Investment

Out of these attributes quality, quantity and equality could be categorised as major attributes of educational development. Since long the research workers are perplexed with a fundamental question ! How to measure these attributes ? It is possible to measure these attributes ? How to measure these attributes ?

Problems of Measurement:

It is difficult to quantify all the dimensions of attributes like quality, quantity and equality. Some dimensions of course could be quantified while some dimensions deserve qualitative assessment. Qualitative assessment of dimensions should supplement quantitative measurement of dimensions. After identification of dimensions it is to be decided which dimension could be

subjected to qualitative assessment and what dimensions could be subjected to quantification.

2. Identification of Dimensions

2.1. Dimension of Quality

Quality depends on following dimensions:

i. Significance: The judgement regarding worthwhileness of ends and means of education system.

ii. Capacity: Potentiality of education system to achieve its end. This involves examination of content, structure, personnel organisation and finances.

iii. Level of Performance/Standard. The attainment of students in a system of edu ation which include results of examination, wastage.

iv. Internal Efficiency of the system

v. Relevance: Relationship between the education system and individual and social goals of education.

vi. Efficiency in using facilities/resources.

2.2. Dimensions of Inequality:

The dimension inequality are manifold and these are inter-related. These are:

i. Inequality between male and female

ii. Inequality between SC & others

iii. Inequality between ST and others

iv. Inequality between Rural and urban areas

v. Inequality between developed and underdeveloped region.

vi. Inequality of exposure of educational facilities to different social groups.

2.3. Dimension of Quantity:

The dimensions of Quantitative expansion of education are:

1. Level of Enrolment/Admission

3. Identification of Quantitative Indicators:

3.1. Indicators for measurement of Quantity:

The following indicators may be formulated for measurement of quantitative expansion of education at micro level.

3.1.1. Apparent Admission Rate

Apparent Admission Rate at a particular level could be determined by dividing the number of children newly admitted in a particular level irrespective of age by the number of child population belonging to official minimum entry age of relevant level and the result being expressed as a percentage. For example the minimum official entry age at primary level is 6 years. The apparent admission rate could be calculated by the following formula:

$$AAR = \frac{\text{Nos. of children newly admitted at primary level}}{\text{Child Population 6 yrs. old}} X100$$

3.1.2. Age specific admission rate:

Age specific admission rate could be obtained by dividing the number of newly admitted children of a

particular age belonging to a particular level by child population belonging to official minimum entry age of relevant level and the result being expressed as percentage. For example admission rate for children of 7 yrs old is to be determined. A seven year old child belonging to primary level. The minimum official entry age for primary level is 6 years. The age specific admission rate could be determined by the following formula:

$$\text{ASAR:} \frac{\text{Nos. of newly admitted children 7 yrs old}}{\text{Child Population 6 yrs old}} \times 100$$

In this way series of admission rates for different age could be determined.

3.1.3. Gross Enrolment Ratio(GER)

GER could be obtained by dividing the total enrolment of a particular level by the child population belonging to official age group for that level and converting the result into percentage. For example GER for primary level could be determined by the following formula:

$$\text{GER} = \frac{\text{Total Enrolment at primary level}}{\text{Child population 6 - 11 yrs age group}} \times 100$$

3.1.4. Net Enrolment Rates(NER)

NER could be obtained by dividing the no.of children belonging official age group of a particular level admitted by total child population belonging to

official age group and then converting the result into percentage. For example, NER for primary level could be obtained by following formula:

$$NER = \frac{\text{No.of children admitted aged 6-11 yrs.}}{\text{Child population aged 6-11 yrs.}} \times 100$$

NER is a better indicator than GER.

3.1.5. Age-specific Enrolment Ratio (ASER)

ASER could be obtained by dividing the number of children enrolled of a particular age by the child population of corresponding age and converting the result into percentage. For example ASER for 6 yrs old could be determined by the following formula.

$$ASER = \frac{\text{No. of children enrolled 6 yrs old}}{\text{Child population 6 yrs old}} \times 100$$

3.1.6. Index of Enrolment Growth (Base Year 1960-61=100)

This could be arrived at by dividing total enrolment of a particular stage (for example, Primary stage) for a particular year (for example 1992 by Total enrolment of the relevant stage for 1960-61, converting the result into percentage. The formula is:

$$\text{Index of Enrolment Growth at Stage 1} = \frac{\text{Enrolment at stage I for a year}}{\text{Enrolment at stage 1 for 1960-61}} \times 100$$

3.2. Indicators related to Qualitative improvement:

The following quality indicators may be identified formulated:

3.2.1. Transition Rate (TR)

Transitions Rate implies the proportion of students of a particular level succeeds in passing into next higher level of education. TR from primary to secondary level could be determined by finding the percentage of students of class VIII (i.e. final grade of primary education) of a particular year.succeeds in entering into Class IX(i.e. first grade of secondary education) next year. This could be obtained by following formula:

$$TR=\frac{\text{New Enrolment in Class IX in Yr'++1'}}{\text{No.of students in class VIII in yr '+'}} X100$$

3.2.2. Promotion Rate (PR)

It is a ratio between the number of students promoted to a particular class (for example class IX) in a particular year (for example 1990) and the total number of students studying in previous grade (for example 1989) expressed in terms of percentage. The formula for example is:

$$PR=\frac{\text{No.of students promoted to class IX in 1990}}{\text{Total No. of students in class VIII in 1989}} \times 100$$

3.3.3. Repeatition Rate (RP)

RR for particular class in a particular year is a ratio between the number of students repeating in a particular class (for example class IX) in a particular year (for example 1990) and the total number of students in the same class (for example class IX) in the same year (for example 1990), the result being expressed in percentage. Repeatition Rate could be calculated by the following formula:

$$\text{R for Grade 'G' in year '+'} = \frac{\text{No.of students repeating in Grade 'G' in year '++1'}}{\text{Total No.of students in Grade G in yr'+'}} \text{X100}$$

3.3.4. Drop-out Rate (D)

Drop out Rate is a ratio between the number of students who drop out at the end of the year (December for example) and the total enrolment in the beginning of the year for example. (January).

$$\text{d for grade G in year '+'} = \frac{\text{No.of students dropping out from grade G at the end of the year (December)}}{\text{No.of students Enrolled in Grade G in beginning of the year}} \text{X100}$$

3.3.5. Assessment of Quality of Teaching Staff

The following indicators may be formulated:

3.3.5.1. Percentage Distribution of Teachers according to their level of general education and professional training.

3.3.5.2. Percentage Distribution of Teachers by years of service. It is a quality indicator because certain quality of teaching is linked with teaching experience. Percentage distribution of teachers by years of service could be calculated for urban & rural areas and for men and women teaching staff for comparison purposes.

3.3.5.3. Percentage Distribution of Teacher by Sex.

Percentage of women teacher by area and by different educational levels may be calculated. In countries where there is a resistance for education of the girls, the percentage of women teachers may contribution to removal of such resistances and higher level of participation of girls.

3.3.6. Enrolment by Class

Specially at primary level, it is essential to calculate the size of the class which has direct bearing on quality of teaching. The size of the class could be calculated and could be composed with national norm. The formula is

$$\text{Enrolment by Class} : \frac{\text{Total Enrolment}}{\text{No. of classes}}$$

3.3.7. Average Audiance:

Average audiance indicator is the average enrolment of the groups with which one teacher deals. This could be

calculated with the help of detailed time-table of the school. The formula is:

$$\text{Average Audiance} = \frac{\text{No.of weekly class periods x No.of pupils}}{\text{No.of weekly periods taken by the teachers}}$$

3.3.8. Teacher-Pupil Ratio:

Teacher-pupil ratio is an indicator of the utilisation of Teachers. TPR is usually calculated by level of education. The formula being:

$$\text{TPR} = \frac{\text{Total No.of Pupils at a particular level}}{\text{Total No.of Teachers at a particular level}}$$

3.3.9. Adequacy of Teachers

Teacher pupil ratio do not indicate adequacy of teachers. There may be surplus teacher in one subject and shortage of another subject. Percentage of teachers teaching various subjects may be worked out.

3.3.10. Time utilisation Rate (TVR)

TVR could be obtained by dividing the No.of periods for which use is theoratically possible, expressing the result into percentage. The formula is:

$$\text{TVR} = \frac{\text{No.of periods actually used}}{\text{No.of periods for which use is theoretically possible}} \times 100$$

For example, theoratically it is possible to use each room for 40 periods in a week but actually it is used for 26 periods.

TVR is $\frac{40}{26} \times 100$

But this indicator gives no idea how for room space is occupied. Therefore space utilisation rate is to be calculated.

3.3.11. Space utilisation Rate (SUR)

This could be calculated with the help of following formula

$$SUR = \frac{\text{AV No.of Pupils in class}}{\text{Room Capacity}} \times 100$$

For example the room can accommodate 30 pupils but it is occupied by only 15. SUR would be

$$\frac{15}{30} \times 100 = 50\%$$

3.3.12. Overall utilisation Rate (OUR)

OUR could be calculated by multiplying TURxSUR

$$= \frac{\text{No.of periods actually used}}{\text{No.of periods for which use is theoratically possible}} \times \frac{\text{Average No.of pupilsin clas}}{\text{Room}}$$

3.3.13. P.C.of Trained Teachers at a particular level

3.3.14. P.C.of students passed in annual examination

3.3.15. Mean Scores of achievement Tests in various subject areas

3.4. Indication related to Equality:

The following equality indicators may be formulated.

1. Co-efficient of Equality of SC/ST at various level or Extent of Coverage for SC/ST at various levels:

This indicator quantities the share of SC/ST population enrolled at various levels. This could be

arrived at by dividing the percentage enrolment of SC/ST to total enrolment of a particular level by the P.C. of SC/ST population to total population, converting the result into percentage. The formula is:

$$\text{Co-efficient of Equality for SC/ST at primary level} = \frac{\text{P.C.of SC/ST Enrolment to total Enrolment}}{\text{P.C.of SC/ST population to total population}} \times 100$$

2. A.V.No.of Primary, Middle and High/H.S.Schools per lakh of population:

This could be arrived at by the following formula

$$\text{Av.No.of Primary schools per lakh of population} = \frac{\text{No.of Primary Schools}}{\text{Total population}} \times 1,00,000$$

3. Co-efficient of Equality of Girls at various levels

This indicator quantifies the share of girls population enrolled at various stages. This could be arrived at by dividing the P.C. of girls enrolment to total enrolment of a particular level by the P.C. of women population to total population, converting the result into percentage. The formula is

$$\text{Co-efficient of Equality of Girls at Primary level} = \frac{\text{P.C.of girls enrolment to total Enrolment}}{\text{P.C.Girls population to total population}} \times 100$$

4. P.C.of Girls Enrolment to Total Enrolment at a particular Stage of Education.

5. P.C.of Girls Enrolment at a particular stage for total girls population of the corresponding official age group.

6.P.C.of SC/ST Enrolment to Total Enrolment.

2. Elemination of Scale-bias:

Data related to various indicators manifest diverse statistical units such as ratio, rate, percentage etc. They are to be made scale free by applying various techniques. One of the most convenient technique of making data scale-free is to divide the data series by their respective means. This transformation will not disturb the dispersion or the relative position of observation in the series since "the standard deviation of the transformed series (Co-efficient of variation) equals the co-efficient of variation of the original series" Kundu (1988).

3. Construction of composite Index

A number of indicators representing various dimensions of quality/quantity/equality are to be combined and treated together indicators to be included/selected for construction of composite Index not because of the fact that they were readily available but they also closely approximated to theoratical structure/characteristics/aspects/ dimensions of either'quality'or'Quantity' or'equality'. These dimensions are to be identified through survey of related studies while constructing group indicator highlighting various aspects/characteristics/attributes/. dimensions of 'quality', 'quantity' and 'equality', the

problem of multicolinerity and singularity are to be taken into account since subsequent analysis like multiple regression results are highly succesptible to multi-collinearity or singularity. Again, on the one hand a substantial degree of multicollinearity exist among socio-economic, demo-graphic and educational variables. Again on the otherhand it is also not acceptable that only correlated variables/indicators play crucial role in educational development. Theoratically, indicators related to various aspects/characteristics/attributes of quality, quantity and equality should be included in group index formulation. Highly correlated sets of indicators contain redundant information which are to be excluded in order to avoid the problem of duplication. But it is important to emphasise here that mere high correlation does not indicate that one variable is redundant in social/behavioural sciences. The magnitude of multi-collinearity and singularity should depend on the theoratical structure of the variables comprising a group where variables work in coassociation. Therefore, bivariate collinearity (colliniority between two variables may be detected from inspection of stand correlation matrix for values in excess of 0.99 which reveals the necessity to exclude the redundant variables. Exclusion

of indicator simply on ground of high correlation would involve significant of information. Therefore, one indicator should only be excluded if it has correlation value in excess of 0.99.

Weighting

In order to construct a Group Composite Index each variable should not get more weight than its share of influence. Again, weights may be assigned in order to minimise the overlapping inferences. The factor loading or component loading of different indicators included in a group on first principal axis may be used as weights. Inspection of the size of weight values would reveal a great deal of relationship between variables which have been combined in a group. Variables having large weight values could be considered as important to the relationship and the variables having lesser weight values were considered as insignificant to the relationship.

Formulation of Weighted Composite Group Index:

Weighted Composite Group Index could be formulated by a weighted linear combination of Scale free values of observations related to indicators. A weighted linear combination is one where in variables were assigned weights, the product of the variables were added together and finally the sam of the product the positive weighted scores (+) and negative weighted scores (-) could be added separately and

the sum of negative scores were subtracted from the sum of positive scores. The formula for formulation of weighted composite Group Index is given below:

$$WGI = \frac{I_1 x W_1 + I_2 x W_2 + I_3 x W \ldots\ldots\ldots I_n x W_n}{N}$$

Where P = Sum of the Product

I_1= Indicator No.1

I_2= Indicator No.2

W_1= Weight assigned to Indicator No.1

W_2= Weight assigned to Indicator No.2

N = No.of Indicators

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SOCIAL CHANGE

Prof.S.N.Sharma,

The Concept and Social Change:

No society, whether historic or pre-historic, has ever remained absolutely static, no matter what the pace and tempo of social change. The inevitability of social change is emphasised in the profound saying of an ancient Greek Philosopher, Heracheitus (1930): "You can not step twice into the same rivers, for fresh waters are overflowing in upon you." Closer to our times Dewey remarks, "Change is the primary social factor as motion is the primary physical fact. Thus, every thing in man's culture is subject to change, a process which may be referred to as social change or cultural change, or as a combination of social and cultural change.

Meaning :

1. Social change means simply the process of becoming different in any sense. When changes grow in a connected order out of earlier phases of change, the process is called evolution. The evolutionary changes appear in connected sequence. The term development, which involves change in the sense of unfolding gradually or evolving the possibilities of something gradually, is also frequently applied to social phenomena.

- Nordskay (1960)

2. Social change is change in social relationships.

- MacIver and Page(1952).

3. Social change is variation from the accepted modes of life whether due to alteration in geographical conditions, in cultural equipment, composition of the population, or ideologies or whether brought about by diffusion or invention within the group.

- Gillin and Gillin

4. Social change is the significant alteration of social structure (that is, of pattern of social action and interactions), including consequences and manifestations of such structures embodied in norms (rules of conduct), values and cultural products and symbols.

- Moore (1957)

This definition encompasses small-scale change, such as the gradual development of a leadership in a small, task-oriented group, cyclical patten of social change, such as the succession of centralization - decentralization in administrative organisations and revolutionary change, such as the overthrow of a political party. It includes short term change in family structures, both growth and decline in membership size of social units; continuous process such as specialization and bureaucratisation and discontinuous

process such particular social inventions. Any alteration to be significant social change has not only to be accepted by the majority, but has to be properly integrated in the s ociety, so that it endures. Thus transitory change like fads and fashions are not included under significant social change. Ogburn (1922) in his discussion of social change includes both material and non-material changes. He emphasizes importance of change in material culture and its impact on the non-material culture.

5. Social change is a tantamount to a real and significant differènce between two status of the culture of the same society, separated by a remarkably long interval of time. More precisely, social change is the process through which s uch a differnce emerges.

– Timashefe (1960)

6. Social change is change in social structure.

– Johnson (1960)

This definition includes change in values, forms of organisation, roles etc. These changes are called institutional changes (monarchy to democracy, private enterprise to socialism), change in the distribution of possessions and rewards, change in personal change in ability or attitudes of personnel.

Theories of Social Change:

1. Theory of Progress and Evolution
2. Cyclical theory
3. Conflict Theory

Theory of Progress and Evolution:

The basic hypothesis inthe ideas of progress and evolution is that change is characteristic feature of human society. The present condition of the society is assumed to be theresult of change in the past. In the earlier theories of biological evolution the idea of evolution and of progress was closely associated. This association was emphasised by Darvin's conception of the "survival of the fittest" in evolutionary process. Similar views were held by earlier sociologists including Comte, Spender and Ward. For them social evolution was, in effect, social progress. The rapid technological and industrial advance of that time was mainly responsible for considering it as such.

Comte explained social change as an outcome of intellectual development. He formulated three laws of intellectual development. It is a progress from the theological mode of thought through metaphysical mode of thought to the positive mode of thought represented by modern sciences. He looked upon education as the

most important fact, the presence of which made certain social classes priviledged and the absence of which made the other classes under-priviledged and open to being exploited. He assumed that the masses would become more dynamic if knowledge were imparted more equitably in society.

Herbert Spencer was greatly influenced by the theory of evolution propounded by Charles Darvin. Spencer believed that there is a cosmic progress from undifferentiated homogeneity to differentiated heterogeneity in societies and thus progress takes place whether people will it or not. Thus he believed in some kind of universal and inevitable social evolution.

According to Hobhouse, a community develop as it advances in scale, efficiency, freedom and mutuality of service. By scale he means number of population, by efficiency the adequate apportionment and coordination of functions in the service of an end. By freedom is meant scope for thought, character, initiative on the part of members of the community. By mutuality participation in service of elite.

Cyclical Theory of Social Change:

Pareto emphasised cyclical theory of s ocial change. The most basic events of social life were found by Pareto in residues (the underlying drives of the society). The residue of combinations (a tendency to innovate) and residue of persistence of aggregates (the tendency towards conservation) were particularly important. Two principal social types and two major social classes embody these residues:the speculators (the residue of combinations) and the rentiers (the residue of persistence of aggregates). Rentiers are the lions of society. They are conservative, cautious, suspicious of change and quite ready to use f orce to maintain order. However, they have a fatal tendency of being lazy. They are easily persuaded to allow the foxes (combinations, interpreneurs, schemers, inventors) to penetrate their ranks by crafts and trikery. In the end of the rentiers find themselves dethroned. Thus "History is the graveyard of aristocraties". or "History is the circulation of elite."

3. Conflict Theory of Social Change:

Marks's general system, dialectical materialism, includes a sociological system called historical materialism. In this theory Marx emphasised technology as a generator of social change and a direct influence on the nature of work and human relations. Technology and the forms of economic organization constituted the material foundations of the social order.

In the Marxist model we have two classes - the bourgeoisie (the capitalists) and the proletariat (Mass of men with labour power).

Marks held that human society passes through various stages, each with its own well defined organizational system. Each successive stage comes into existence as a result of conflict with the one preceding it. Change from one stage to another is due to change in the economic factors, namely the method of production and distribution. Thus a change in the material conditions of life brings change in all social institutions such as state, religion and family. It alters the primary socio-economic relationships.

By conflict Marx and other theorists meant a violent, physical clash of people who have irreconcilable interests, values, sentiments and loyalties.

Today, on theother hand conflict is often used as a blanket term to encompass all kinds of contrasts, oppositions and contradictions between individuals and social groups.

Structural-Functional Model of Social Change:

Every social system is changing all the time. This follows from the fact that at the very least its members are growing older, and therefore are undergoing physiological transformation some of which affect their role performance. According to this theory social change means change in social structure.

Change in Social Values:

The most important kind of structural change is change in the comprehensive standards that have been called values for example transition from feudal type of society to industrial-commercial type. Warriers and priests were at the top in the feudal society. In industrial commercial type of society, however, economic production is more highly valued and leaders in this field of activity have greater prestige.

Some changes are seen in pattern variables such as in India greater emphasis is being given on universalism as against particularism.

Institutional Change:

Institutional change means in one or more definite structures, such as forms of organisation, roles and role content. Change from monarch, to democracy and from private enterprise to socialism are examples.

Change in thedistribution of possibility and rewards

Wages are rewards for services and at the same time a possession. There are intangible rewards also such as prestige, reputation, love, affection and resentment.

Change in Personnel:

Changes may occur in the particular persons occupying the roles of a social system. Such changes are inevitable as people grow old and retire or die.

Every one is unique in his capacities and developed abilities. Role performance is affected by unique personality of the role occupant. Even with the change in selection procedure the quality of personnel will be affected.

Thus we find that whenever there is change the structure of a social system, i.e., sub-groups, roles, regulative and relational norms and cultural values there is a change in the social system.

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NON-FORMAL EDUCATION - DISCUSSION PAPER

Dr.P.C.Mahapatra,

- Universalisation of Elementary Education(UEE) has been one of the goals of educational development (Art 45 Directive States Policy).
- It is a part of Minimum Needs Programme as well as the 20-point programme.
- The National Policy of Education 1986 (NPE) gives an unqualified priority to UEE.
- The World declaration on Education for all (World Conference at Jomtien,Thailand 5-9 March,90) reiterated the commitment of all States towards UEE.

Need of Non-Formal Education

- Large number of habitations are without schooling facilities.
- Large number of children are non-enrolled or dropouts due to various factors.
- Limitations of the outreach of formal sectors due to various reasons.
- Provision of access and equity to school dropouts, children in habitations without schools, working children and girls engaged in family chores.

Therefore

- The need is to supplement the formal schools through non-formal and open learning system.
- This is meant for 6-14 age groups.
- Child centred, Environment oriented, flexible, diversity in learning activity.
- Selection of local persons dedicated to take up the programme.
- Decentralisation of Management.
- Participatory learning with joyful activities.
- A learner Centre approach with the instructor as the facilitator.
- Programme is organised at the time convenient for the learners generally in afternoon for girls and enening for working children.
- Organising activities as per learners progress (not the bed of Procustus).
- Emphasis on learning rather than teaching.
- Total duration is generally shorter than in formal education.
- Teachig more in modular form.

Importance of Instructor

- Being local
- being dully motivated
- acceptable to community
- preferably from the weaker section of the society, acceptable to the community.

Nodal Agencies

- Directorate of Elementary Education District level, Coordinators, Asst.Coordinators, SCERT (Technical resource) Ministry of Human Resources - Department of Education, (Administration & Funding) NCERT (Technical Resources and quality control.

Curriculum Courses

- National goals - MLL - based on knowing feeling, doing.
- Culture based, local based, Need based, child experiences centre, Dose of impression & Expression science & new innovation.

N.F.E. Models

I. a) M.P. Model - provision of condensed courses- no change in the syllabus, text book & the system of learners evaluation.

b) Part time Evening school no condensed courses.

c) Extension wing of the existing Primary school, - appointment of part time teachers.

II. Pune Model - Condensed course but instructional materials different, scholastic achievement with that of formal stream.

III. Integrated model - Emphasis on imparting skills in language & Mathematics of V level standard through use of integrated text books and learning materials. Duration of Primary school course for two years.

IV. CAPE Model - (Comprehensive Access to Primary Education) decentralised development of syllabus and learning materials with reference to the work and environment of learner, duration of course flexible, length of instruction everyday.

V. Work Oriented Models - specially for wage earners and wage labourers - relating to their work, improvement of skills, flexibility regarding the number of day.

VI. Awareness based Model - a strong component of critical analysis of the social predicament of the children-the syllabus, instructional materials and learning process being organised around awareness building.

VII. Introduction of Sikhyakarmi - habitations without primary schools as extension wing, Night schools or evening school for working children, children, of migrant workers and slums dwellers, pre-primary-Cum-Lower Primary Centres as unstructured but completely non-formal appointment of para teacher (Probationary).

VIII. <u>In short</u>

- NFE envisaged a major role for UEE.
- Enough flexibility for the learner to learn at their own pace and at the same time quality comparable with formal education.
- Curriculum to the needs of the learners and the local environment.
- Development of local specific learning materials.
- Appointment of local motivated persons acceptable to the community as NFE instructors.
- Flexibility in Centres timing.

<u>Scheme</u>

It is a central as well as State sector scheme. Since Sixth Plan (1978). It is a centrally sponsored scheme in Nine educationally back ward States U.P., J & K, Rajasthan, Madhya Pradesh, Andhra Pradesh, Bihar, Orissa, West Bengal, Assam.

The pattern of Central Assistance.

1. General Centres of N.F.E. - 50%

2. N.F.E.Centre for Girls - 90%

3. Projects for Voluntary agencies.- 100%

4. Innovative Projects - 100%

For Non Educationally backward States:

- For children in the hilly and desert area.
- Tribal areas and Urban slums.
- Places having concentration of working children.

Cost of Primary & Upper Primary Centres

Primary - Rs.4150 then subsequent years Rs.3640/-

Upper Primary - Rs.7990 then subsequent years Rs.7120/-

Expansion

The expansion of NFE centres at the initial stage was very slow but it picked up from 1983-84 onwards. The number of centres increased from 56 thousand in 1982-83 to 114 thousand in 1983-84, 241 thousand in 1988-89. Likewise girls centres increased from 10100 in 1983-84 to 70960 centres in 1988-89.

Deficiencies

- Non-formal education programme almost invariably invites derisory comment.
- Programme has been treated casually be State Government.
- Administrative and support structures are ill provided.
- Training is insufficient - A genuinely non-formal method is never followed.
- Academic and pedagogical questions have received little attention.
- Managerial neglect has made the whole programme dysfunctional.
- Resource and learning materials and instructional equipments are not available in time.
- The scope for adjusting the syllabus to the special needs of the learners is not adhered to.
- NFE Programme is referred to as a poor programme for the poor people.

Suggestions

- increase in instructor's remuneration.
- better selection & training of instructor.

- satisfactory provision of lighting arrangements.
- ample supply of textual materials and instruction aids.
- preparation of good quality and relevant teaching/learning materials.
- establishment of equivalence with the corresponding level in formal system and grant of equivalent certificates.
- encouragement of NFE children to move into the formal system, including through competition for the prestigious Navodaya Vidyalayas.
- Adoption appropriate levels of minimum learning and define a time frame work.
- Introduction of continuous comprehensive learners evaluation.

All the agencies working for NFE will be projectised - adoption of project based approach.

Through comprehensive micro planning involvement of local NGOs may be enhanced and holistic approach may be adopted for all segments of education. More Upper Primary NFE centres may be opened. A proper system of monitoring and evaluation will be established for improvement of the programme.

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VOCATIONALISATION OF EDUCATION

Prof.R.C.Das

1. Vocational education is that education which prepares an individual for a vocation or occupation. Usually, by convention, vocational education prepares the individual for entry into skilled jobs or for self-employment in a skilled job. The emphasis is here more on manual skills and less on technical knowledge. Those jobs in which technical knowledge is more required than manual skill are called technical jobs and education that prepares for these jobs is called technical education. Education which prepares an individual for a large number of related technical jobs requiring higher level of technical knowledge is called professional education. Thus we have three levels of education which prepares individuals for jobs: Vocational, technical and professional.

2. Before independence we had separate institutions for imparting vocational and technical education, which also continue to this day. We have industrial training institutes (ITI) which prepare for vocational jobs, polytechnical institutes which impart technical education and engineering colleges which impart professional education. Similar institutions are also there in Agriculture and Medical fields.

3. After independence, Mudaliar Commission first recommended diversified education at the secondary level so that a student may branch out after class VIII to anyone of seven streams: Arts, Science, Commerce, Technical(Industrial), Agriculture, Home Science and Fine Arts. While Arts and Science streams are college preparatory academic courses, the other streams were mainly vocational and prepared for entry into vocational jobs. Schools having one or more vocational streams in addition to academic courses were called Multipurpose Higher Secondary Schools. Mainly to prepare teachers for the vocational streams Regional Colleges of Education were set up with attached Demonstration Multipurpose Higher Secondary Schools.

4. This scheme failed because

(1) most parents did not want their children to study Vocational Courses

(2) teachers for teaching Vocational Courses were not available

(3) government could not provide adequate financial resources for providing equipment for Vocational courses.

(4) the few students who completed the Vocational Courses could not get jobs.

(5) parents thought class IX is too easy for the child to select a stream for study

5. The Secondary Education Commission headed by Kothari (1964-66) reviewed the position and recommended the 10+2 pattern of education.According to this pattern, general education willbe provided upto class X and diversification will begin thereafter. Both academic and Vocational Courses will be provided at the plus two stage, the vocational courses being generally of a terminal nature leading to jobs. Government has accepted these recommendations and implemented them. The main advantage is that the child now makes choice of his course (Vocational or academic) after class X and not after class VIII, sothat he is more mature. Further he has general education upto class X and so can have further higher academic education also after vocational course.

6. Although the original objective was that at least 25% of students after class X will be diverted to vocational stream, till now not even 10% of the students have been diverted into Vocational Courses. The implementation is very slow in many States and the results where implemented are not very satisfactory. The NCERT set up a department of Vocationalization of Education

to help the State Governments in organising Vocational education at +2 stage. This department helps states in conducting Vocational surveys to identify vocations for which employment is available, in preparing instructional materials and in training teachers.

7. Some of the difficulties faced by this scheme are as follows:

(1) Adequate finances are not available for purchase of equipment required for these courses.

(2) Qualified teachers are not available.

(3) The amount of practical training given to these students is not adequate for development of skill required.

(4) In many Courses, apprentice training is not available to the students passing out from these courses.

(5) Usually students who cannot get admission to academic courses get into these vocational courses. So they are usually below average in intelligence and academic achievement.

(6) Employers do not find these students good enough for their jobs. They prefer I.T.I. passed persons or a student passing from academic course whom they train in vocational skill.

(7) Even after Vocational education, the students, passing out want to study academic degree courses or want admission to higher technical / engineering degree courses.

(8) By attaching these courses to general higher secondary schools, they do not get the proper attention from school administration.

(9) Points for consideration -

(1) Should these courses be attached to general higher secondary schools or be offered in separate institutions?

(2) Should these courses be under the Board of Higher Secondary Education for examination and Certification or under a separate Board of Vocational Education?

(3) Should duration of all courses be two years or may vary from 1 year to 3 years depending of the course ?

(4) Should teachers be post graduates or highly skilled persons with minimum general education ?

(5) What should be the weightage between theory and practical training in these courses?

(6) How can we associate potential employers in the management of these institutions ?

(7) How to link demand and supply of skilled persons ?

(8) How to develop greater respectability in society for skilled persons ?

9. There is also research in the area of vocationalization so that the programme can be implemented on the basis of findings of research.

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ACCOUNTABILITY IN EDUCATION

Prof. B.Das.

During the British rule the word accountability, derived from the word Accounts was connotative of the proper and correct maintenance of accounts. Since in those days the administration was mainly concerned with the maintenance of law and order, the stress was on the correct financial management. The system was not conducive to developmental administration. The financial system was not fased on trust. There was too much contralisation, excessive reliance on financial rules and regularions and procedures, detailed itemised control of expenditure. The control of audits and accounts vested the same person. The evolution of a federal frame work in the Indian constitution has now led to devolution of financial powers. The entire system was based upon a distorted sense of accountability. In the begining accountability meant that the administration headed by the Viceroy was made accountable so the Secretary of State in England. As such audit which is normally a fool of the legislature now, was used in those days for remote control from England. The role of audit has changed after independence.

Even the legality and regularity dominate the system of accountability and the centralized control of the Finance department persists.

This concept of financial control or control of expenditure, however, has now undergone a lot of change and accountability is not confined to financial expenditure only. It has been extended to the concept of performance with the concept of performance budgetting and programme budgetting having come into operation do some extent. In other words, the aim now is to evaluate the performance of the employees in realizing the objectives for which public money is provided in the budget. In the 1960's in the USA, U.K. the concept was extended to the proformance of the education system in achieving the objectives of the education department. When traditional time-tables at schools and colleges started to be supplemented and sometimes even subtituted by para-educational subject like peace-studies, multi-racial education, equal opportunities etc. parents and guardians began to press for explanations. Schools were expected to accoun for the public funds that were begin spent on the curriculum in its experimental programmes. Thus the word accountability which was first coined in this context in the U.S.A. -

became part of the educational vocabulary in the world. The shift in the connotation from the maintenance of correct accounts to the utilization of public funds or even private funds (e.g. private schools or institutions) for justifiable activities to realige the aims and objectives of the institution has become more and more pronounced. Management by objectives (M.B.O) is the outcome of this change in connotation.

In our country now a days accountability in education is attracting considerable attention, specially after the introduction of the NPE in 1986 on account of the conduct and behaviour of the teacher community or the managements in our country in recent times. It is now alleged that there is little or no accountability of teachers who from the lowst to the highest levels have become irresponsible, negligent in the performance of their legitimate duties and they generally go unpunished in spite of all their commissions and omissions. The matter has been discussed and debated widely in different fora, in the parliament in stage legislatures, in teachers associations, in the organisations of parents and guardians. The malady has worsened with the passage of time and now it is alleged that at the primary level, teachers, specially in rural

and tribal areas remain absent for long periods or send substitute teachers on lower wages to act for them while they are engaged in their own private occupations like agriculture or business. Private tution has became a major source of supplementary income at the cost of the legitimate duties of teachers at all levels. Other allegations are that as teachers become more and more indisciplined, they indulge in corrupt practices like cheating at examinations, manipulation of results on the basis of caste, creed, religion and other undesirable considerations. It is also alleged that teachers indulge in such practices because of their politicisation. Union power backed by political patrionage enables them to defy authority and as a result the internal and external efficiency of the education system has weakened and the system has come to a point of collapse, with chronic strikes, look-outs, demonstrations, 'dharnas' and other disruptive activities. Under such conditions of disorder, no worthwhile human resource can be developed.

Accountability is a sensitive issue no doubt, in these circumstances and the administration system is unable to enforce it by the existing machinery of inspection and supervision. At the school level, the primary school

teacher is used by politicians to become an agent of a local political leader who protects him from any regulatory function and the infection has spread to others very rapidly. The honest and sincere teacher especially when he is young finds himself at the cross roads, becomes quickly disillusioned and gets abserbed in the corrupt system sooner or later.

In the management of the school system, there is considerable lacuna specially in the private sector. The proliferation of substandard institutions of the middle and secondary levels has now become a pastime of politicians. They harass the teachers, tread them with scent justice, and since they have political cloud the teachers are forced to resort to direct action or litigation. The various derives of abitration boards, tribunals, clouis etc. are of little avail except in the missionery institutions in which because of moral values and commitment, there is a high degree of accountability which prevails without much recourse to external enforcement.

How the idea of accountability has been diluted in the post-independence era can be gauged from the severe opposition to the proposal for the introduction of a

code of conduct for college teachers by the UGC. It found that deriliction of duty had become wide-spread among the college and university teachers at the same as when their demands for higher pay scales and better service conditions were mounting. There was even a suggestion for a code of conduct to be prepared by their own associations but that also peteredout. It is the same sad story with teachers at the lower levels.

Accountability is a function of the administrative system which in its turn is related to the political system. Whenever an idea of order and discipline prevaails in the political and social systems accountability becomes smoothly operative. But in our country with near ananchical conditions prevailing in the political system, the administrative system which is based on the rule of law, has gone to pieces since the rule of law is given short shrift by the political system. To circumvent law by fair means or foul, more often by foul means than fair, has become the order of the day and so the idea of order has practically disappeared from our political system. License has replaced liberty and that ethos has penetrated into the administrative system. The rule of law has become a casualty in the

prevalent atmosphere of corruption, nepotism, favouriism and other undesirable practices.

In the administrative system in the narrow sense, accountability is usually that of the subordinate to the superior authorities in the hierarchical structure. If we take the organ on of the education department at the state level there is a well defined line of control and supervision and the employees, whether teachers or other officials, are accountable to the senior or superior authorities governed as they are by codal provisions eg. the service code of the education code.

In the wider sense of the term, however, accountability in a democracy utimately is to the state or the people since it is the people who my means of the exercise of their will form a government. That will is exercised through a well defined administrative system with its net work of rules and regulations. Where the rule and regulation are operated without let or hindrance, accountability faces no serious hazards. But where owing to wrong or motivated interpretations of the political will buttressed by undesirable factors like corruption, nepotism, favouritism etc. there is inteference with or subversion of the

rule of law, accountability goes heyware. Then a situation arises in which irreverence for the idea of order becomes a common feature. If school teachers neglect their duties with impunity and the administrative system is impodent in taking action against them, the whole concept of accountability falls to the ground. It is the common scenario in our country and for this the politicians are primarily responsible.

On the other hand, in a normal situation the teacher's accountability flows primarily from the conscince which makes him aware of the magoitads of his responsibility to develop human resources for the progress and welfare of his people. This moral concern prevails when the national character is untainted unsullied and it stems from and adequately formulated philosophy of life. That philosophy in its turn shapes the philosophy of education in the country. At present in our country we cannot define either of the philosophis with the result that a kind of gross materialistic outlook on life has become widespread and it has led to the erosion of moral values in society. To expect accountability from the impulsion of conscince these days would be difficult, if nor impossible.

In ordinary parlance the educational tried comprises the parents-guardians, the students and the teachers, keeping that in view accountability can be explained in terms of their interrelationships. That is different from the formal conception of accountability that of discharging one's responsibilities to the satisfaction of the superior authorities, specially the controlling officer or authority. That conception was prevalent during British rule.

So from this point of view the ultimate and immediate meanings of accountability have to he borne in mind. In the immediate context the teachers' accountability is to his students. He has joined a profession whose business it is to develop the potential human resources through a well-conceived teaching-learning mechanism. It is the teacher's responsibility to see that the system is designed and run to the best adventage of the students for their all round development. That development can be assured if the system is designed scientifically and administered efficiently. This accountability can be assessed by the teachers themselves, by a method of self-evaluation. It can also be assessed

by the students by means of anonymous teacher-performance forms.

The parents and guardians who pay fees and donations and entrust their children/wards to the teachers expect that the trust imposed in the latter is properly vindicated. There may be parents-teachers associations through which they can interact with one another and cooperate with one another for the development and efficient management of the institution or school. There are other means by which this interaction can be made eg. voluntary service by parents and guardians to the school. It ultimately leads to the teachers accountability to the society for its progress and well being through education as a service. This concept of education is yet to be developed in our country.

When, however, we go to higher levels of educational philosophy the teachers greatest accountability is to himself. To thyself above all be true. Teachers who exhibit sincerity and integrity of character accept this concept of accountability. Sincerity and integrity ensure accountability at all other levels ending up with the state or the nation. In a climate of pervasive corruption, cynicism or even

nitilism, it is the accountability to the self that can redeen to teachers from the crisis that has overtaken the educational system at present to a large extent.

The New Educational Policy in part X dealing with the "Management of Education" rightly stresses the establishment of the principle of accountability in relation to the given objectives and norms but it has not spelt out the modalities. As such accountability flounders with the increasing politicisation of teachers and frequent upsetting of the regulatory norms that are incorporated in the system. The nation is paying a heavy price for this abernation. Accountability can function satisfatirily when the rule of law runs its course without being affected by fear or favour.

VALUE EDUCATION IN SCHOOLS

- (Dr.) R.C.Das

1. Concept of Values-

According to John Dewey Concept of Values includes:

"1.The idea of prizing, charishing and holding dear.

2.The idea of reflection and making connections between the factors of the situation in one's existence to the end that intelligence is employed and that improved judgement is concluded.

3.The idea that action in support of an approved value will be taken."

Moral values are a specific category of values which are based on the concept of justice.

2. Values have been classified in various ways. Using a questionnaire (or a preference scale) it is possible to obtain a measure of relative preferences of an individual for these different value classifications. Sherry and Verma in their Personal Values Questionnaire (PVQ) have classified values into ten categories as follows: Religious, Social, democratic, aesthetic, economic, knowledge, hedonistic, power, family prestige, health.

3. Jean Piaget and later Lawrence Kohlberg have found that there are distinct sequential stages of moral development. These stages of moral development occur naturally and universally in all individuals. No such stages of natural

development have been found in case of other values.

4. Old moral education tried to develop a set of pre-determined norms of behaviour. Modern moral education aims to accelerate the process of natural moral development so that the individual may reach the level of autonomous moral judgement based on self-develped moral principles.

5. Andra Schlaefli (1985) and associates made a meta-analysis of 55 research studies of educational interventions designed to stimulate development in moral judgement. All these studies used the Defining Issues Test. The major conclusions of the meta-analysis are:

"1.Moral education programmes emphasizing dilemma discussion and those emphasizing personality development both produce modest but definite effects with the dilemma discussion method having a slight edge.

2. Academic courses in the humanities and social studies do not seem to have an impact on moral judgement development.

3. Programmes with adults (24 years and older) seem to produce larger effect sizes than programmes for younger, subjects; however several artifactual explanations may account for this trend.

4. Effect size is related to exposure to Kohlberg's theory. Whether this is test contamination or true developmental change needs to be determined.

5. Interventions longer than 12 weeks have no more impact than interventions of 3 to 12 weeks; however, duration less than three weeks tends to be ineffective when measuring moral judgment by the DIT."

6. Kohlberg's approach to moral education is called Cognitive development of moral judgment. First, he recommends giving a test of moral judgment to determine the stage of development at which each pupil functions. The education programme consists of small group discussions of moral dilemmas. As the groups discuss, the teacher suggests moral reasoning one stage higher than that of the pupils. The teacher's opinion is neither stressed nor invoked as authoritative.

7. Kohlberg is not in favour of development of values other than moral values for two reasons: "First, it is not clear that the whole realm of personal, political and religious values is a realm which is non-relative; i.e. in which there are universals and direction of development. Second, it is not clear that the public school has a right or a mandate to develop values in general."

8. However, other educators argue that so long as the school is not imposing any set of values but stimulating and clarifying the values, this falls within the functions of the school.

9. We shall, therefore, not discuss the programmes and activities the school may take up to develop any set of values. We shall discuss the approaches sued for value clarification and value awareness.

10. There are several approaches used for value clarification and value awareness. However, in all these approaches, pupils discuss,,preferably in small groups, hypothetical situations in which values conflict. A theory and a set of classroom techniques in value clarification have been developed by Sidney Simon, Merrill Harmin and Louis Raths. The theorists believe that when students are faced with Conflicting sets of values, an individual value crisis may occur which could produce confusion, apathy, hostility or other negative results, which are destructive to personal growth and the teaching-learning process. The basis theory focusses on seven processes of helping students towards developing and clarifying their own values. These seven processes are "Choosing freely, choosing from alternatives, choosing after consideration of the consequences, prizing one's choice, publicly affirming these choices, acting on choices and incorporating these choices into a pattern of life. Classroom techniques for clarifying values have been developed to help students learn and use one or more of these seven processes."

11. J.R.Fraenkel has described a classroom technique which is called "Analyzing value conflict". A value dilemma is presented to students. A value dilemma is a situation, argument or illustration in which one or more individuals are faced with a choice (this is essential) between two or more conflicting alternatives, each of which is desirable to some degree. Then the following steps are taken:

"Clarify what the value conflict is about, then
Ask for facts,
Ask for conceivable alternatives.
Ask for possible consequences of each alternative
Ask for evidence to support the likelihood of each consequence occurring,
Ask for an evaluation of desirability of likely consequences.
Ask for a judgment as to which alternative seems best and why ".

Students should be asked to make their own judgments after ranking the consequences using their own criteria. During discussion, they should explian how they arrived at their judgments. They will also hear how other students have arrived at judgments. This will enable

them to compare their judgments with those of others and to make changes in their criteria if they think necessary. In this way they learn a method of resolving value conflicts.

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CONTEXT OF VALUE IN PERSONALITY

Prof. Biswanath Roy

It is always a matter of discussion as regards what kind of value or values determine the ways of life. Is it one particular value or, a set of values or, that the person believes in a consortium of values, which he adopts from time to time or, that he fixes up with one value and remains faithful to it throughout his life ? Ralph Barton Perry observed that, 'an object, whatever it is, acquires value when any interest what so ever is being taken in it'. Value is also conditional. Either it becomes a matter of tradition and modernity or it emerges as a concept which is subject to temporal, spatial and individual modalities. According to Ralph Barton Parry's definition, value becomes subject to Conventionism and Relativism. Sometimes values are confused with habit patterns, modes of duties, ethical, moralistic and idealistic tendencies, where as, these are mainly defence mechanisms of the ego to repress aggression. Aggression is instinctive. Everybody wants to aggress but circumstances do not permit the person to do so always. The person makes it sure that if the aggression is expressed, no personal socio-economic injury would take place. It means that the person can afford to displease more persons around

him, after knowing very well that the persons aggressed upon will never be able to do any harm. But, on theotherhand, if there would be somebody who can be of higher socio-economic use to the person concerned, the same person will like to fall for the former's aggression. The whole question involves the establishment of 'power- heirarchy', 'transferring the aggression' and similar other processes for the movement of aggression in various directions. But at times it happens that aggression is not expressed directly, it is rather repressed directly, it is rather repressed and then expressed through someother socially acceptable medium. It takes place since expression of direct aggression is considered to be socially harmful. Indirect expressions of aggression are mainly transferred or substituted to some sublimated products. The ethical, moral and idealistic viewpoints in case of values are such sublimated products. On the otherhand it is a very rare inuident that aggression sublimates to become 'object love', which is the final say about utilizing aggression in the best possible socially acceptable manner.

It may be pointed out further, that it would be difficult to accepts the view if we do not presume that the society is changing, individuals are changing, the world of percepts and the concepts are all changing,

as a whole. It is not that we neither leave the world better nor worse, but as unit individuals, social-psychologically, we certainly make it better. The betterment is alround. But at times we come across individuals in isolations, as well as in groups, where they refuse to accept the new percepts and concepts. They go on to believe that we have nothing to do on this Earth but serve the destiny only. To them attempts for changes are good but from 'experience' they would say 'it is all useless'. On the otherhand, they would preach stirct morality, ethics, idealism for adjustment with the changes.

Individual values cannot be also sharply divided into spiritual and material. We have to know what kind of interest it is serving for the individual. Interest is the vital factor in the making of the values and interest determines whether the values will be material or spiritual or vice versa. This involves us to get into the problem of finding a decided limit to the definition of values.

Sometimes philosophical values are more stable.But, if philosophical values would mean spiritual values or values related to various factors related to the concept of 'good', then it involves the question of 'what is meant by good ?' But from our philosophical experiences we know

VALUE EDUCATION AT SCHOOL LEVEL

Dr.K.M.Gupta

Value education is an integral part of school curriculum. The concern for the erosion of essential values in our society has been brought to the focus by National Policy on Education,1986. This is not the first time that the decline in the standards of moral and social life has been pointed out. Earlier also various commissions and committees* on education have pointed out the need for fostering values through education. The curriculum for the ten year school(1975) prepared by the NCERT emphasised the importance of developing values among future citizens through education. It was envisaged that the entire life of the school in which the child lives should provide social, intellectual and moral environment.

National curriculum for elementary and secondary education (1988) envisaged in the context of national system of education the following common core components:-

1. History of India's freedom movement
2. The constitutional obligations
3. Content essential to nurture national identity
4. India's common cultural heritage

* The Religions Education Committee of the Central Advisory Board of Education in India,1946; The Univ. Education Commission, 1948-49; Secondary Education Commission, 1952-53; The Committee on Religious and Moral Instruction,1959; National Committee on Women's Education,1959; The Education Commission 1964-66, National Policy on Education,1967.

5. Egalitarianism, democracy and secularism
6. Equality of the sexes
7. Protection of the environment
8. Removal of Social barriers
9. Observance of the small family norm
10. and Inculcation of the Scientific temper

Values included in the common core are based on the recommendations of various educational committees. The important aspect of common core component is the emphasis on 'instiling a nationally shared perceptions and values and creation of ethos and value system in which common Indian identify could be strengthened'.

OBJECTIVES OF EDUCATION

The school curriculum is aimed at enabling the learners to inculcate skills, attitudes, values and habits conducive to the all round development of personality. Besides, other general objectives of education at school level the following objectives concerning inculcation of values among pupils have also been highlighted in the National Curriculum for Elementary and Secondary Education(1988). The curriculum should help to promote development inthe learner of:

i) Moral and character values such as honesty, truthfulness, dependability, courtesy, fearlessness, compassion etc.

ii) Capability of appreciating and tolerating differences and diversities of various sorts and capacity to choose between alternative calue systems.

iii) An awareness of the inherent quality of all and need of global fraternity with a strong commitment to humane values and to social justice.

iv) Scientific temper characterised by spirit of inquiry, courage to question and objectivity leading to elimination of obscurantism, superstition and fatalism;

v) Knowledge of scientific methods of inquiry and its use in solving problems;

vi) Appreciation of sacrifices and contributions made by the freedom fighters and social workers in the country's freedom struggle and social regeneration and readiness to follow thdr ideals.

vii) Appreciation of and readiness to practice in life the national goals of socialism, secularism, democracy and non-violence.

CONTENT

The various subjects at the school level such as language, mathematics, environmental sciences(science and social science) work experience, art education, health and physical education have included the content essential to inculcate desirable attitudes, appreciations and values. For example, mathematics makes direct contribution towards the inculcation of Scientific temper, through the development of analytical thinking and reasoning. The content in mathematics also highlights the values like equality of sexes, protection of

environment, removal of social barriers, observance of small family norms etc. The content of environmental sciences has also been organise by including the values given the status of core components in the curriculum.

APPROACHES TO VALUE EDUCATION

The following three approaches are available for the inculcation of values among students.

1. Direct approach
2. Indirect approach
3. Incidental approach

The Direct Education Approach refers to deliberate and systematic instructions in values in specially provided period of school time table. This approach is being followed in many schools where the provision have been made in the time table. The values are explained and illustrated through stories of real life events etc.

The Indirect Approach to Value Education advocates the integration of values with regular curriculum Value Education is imparted as an integral aspect of various curricular and co-curricular activities. The National Curriculum for Elementary and Secondary Education (1988) has recommended this approach.

The Incidental approach to value education implies imparting such education whenever an appropriate occasion arises for the same. For example, acts of courage, bravery, indiscipline etc. Can be highlighted on various occasions in the school such as morning assembly, sports day etc. The cummulative effect of these kinds of experiences lead to internalization of values among students. There is no uniformity in the mode of imparting value education at school level. In majority of schools indirect integrated approach is being followed where as in some schools, particularly those run by voluntary organisation direct approach is followed.

TEACHERS ROLE

Separate teachers are not provided to impart value education at the school stage. Each and every teacher is expected to help the students to internalise values. The process goes on continuously through the various activities (direct, indirect and incidental). The relationship of the teacher with the pupil plays an important role in the process. The teachers are expected to create an atmosphere of love and trust in the school. A variety of co-curricular activities are suitably utilised for the promotion of values.

TEACHER'S TRAINING

The pre-service programme of teacher education has also incorporated core components of school curriculum in the syllabi and guidelines developed by the Department of Teacher Education Special Education and Extension Services (1991).

DOCUMENTS

The Council has developed the following documents to promote value education in school.

1. National Curriculum for Elementary and Secondary Education.
2. Elementary Teacher Education Curriculum
3. Secondary Teacher Education Curriculum
4. NCTE Bulletin
5. In-service Teacher Education Package for Elementary School Teachers.
6. In-service Teacher Education Package for Secondary School Teachers.
7. Mulayo Ka Sekhana Sikhana (developed by RCE, Ajmer).
8. Handbook of Value Education(manuscsipt under preparation at RCE, Mysore).

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INNOVATIONS IN EDUCATION

Prof.R.C.Das

1. An innovation in education is something new which has been tried out and found useful. After it is widely accepted and used, it ceases to be an innovation, but becomes a good practice in education. Education should continuously try to find out good practices. This is one way of bringing about qualitative improvement in education.

2. Innovations in education are brought about by the educational practitioner, i.e., the teacher or the educational administrator. When he faces a problem situation for which there is (or he does not know) a solution, he makes an intelligent guess and formulates a methods for solving the problem. He tries out his method and in his own way evaluates it. He rejects it if he is not satisfied with its result and formulates and tries out another method for solving the problem. In this way, he finds out a satisfactory method for tackling his problem and uses it in his school (or class). He is engaged in action-research (knowingly or unknowingly) and at the end finds out an innovation.

3. In order to stimulate innovations in education, teachers and administrators should be oriented (in their pre-service and in-service education)

in action research. They should be (1) sensitive to the problems in their educational environment. (Any unsatisfactory condition is a problem) (2) willing to try out a new method of tackling the problem. Administrators should be willing to provide necessary facilities to the teacher who wants to try out an innovative idea. A knowledge of principles and method of action research helps in tryout and evaluation of the innovative idea.

4. The School climate should also be such as to promote innovation. In an authoritarian school climate, it is difficult to bring about an innovation. An open (democratic or free) school climate encourages experimentation and innovation in education.

5. Motivation also helps in bringing about innovation (one industry wrote before every worker, "There is always a better way of doing it, can you find it?" Monetary rewards were also given to workers who gave good suggestions for improving the process or product). NCERT encouraged experimental projects in school as well as in teacher education institutions by proving contingent expenses for approved projects. Also national awards were given to teachers whose projects were considered to be very effective and useful. NCERT has also published such innovations for the benefit of other teachers.

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ECONOMICS OF EDUCATION

Dr. D.K.Bhattacharya

Introduction

Economics of Education-an interdisciplinary area of investigation has developed since 1960's. But the writings of classical economists in 18th and 19th centuries had highlighted the importance of education as national investment and analysed how education should be financed. Adam Smith, Mathus, Senior and MCCullock had underlined the economic role of education in macro perspective. Adam Smith had observed that intelligent and disciplined behaviour of people and an effective administration which are vital for economic development could be attributed to education. Mathus had visualised education as an effective instrument for population control. Senior found education as an effective instrument for retirement of human wants and for enhancing the productivity of workers. The direct contribution of education in raising workers productivity was higuligated by MCCullock. The classical economists had foccussed only the general relationship between education and economy Marx believed that education has the potential to raise human dignity and productive effeciency. In 1924, the Russian economist Strumulin had examined the 'economic

significance of national education'. In late 1950' and early 1960's there was a revival in the interest in the question of relationship between education and economy in U.K. and U.S.A. and since then a tremendous growth of research and publication in the area of Economics of Education has become evident.

2. Area:

The areas of economics of education has expanded tremendously in recent years. The following major areas could be highlighted.

1) Concept of Human Capital
2) Education as Investment; profitability of investment on Education (including private and social returns to educating).
3) Role of educated manpower in economic development (including forecasting of manpower requirements).
4) Cost analysis in Education (including cost effectiveness and productivity)
5) Financing of Education
6) Effects of Education on finance and wealth distribution.
7) Education and Development
8) Resource Allocation to Education

Concept of Human Capital

The concept of Human Capital is central to much of research in Economics of Education In Economics the term 'Capital' means produced means of production i.e. a tool/ appliance or machinery which could be used for further production. Since man is the creater of machine/tools/ appliances, educated manpower should be treated as the biggest capital. Modern economists prefer to invest more on human capital instead of physical capital. Investment on physical capital such as building, factories and machines generate income in the form of production of goods and services. But investment on human capital in the shape of education and training creates assets in the form of knowledge and skills which increase the productive capacity of manpower. One of the reason of regional economic disparity is that developed regions possess human capital which could utilise physical capital effectively. Bowman(1966) had discribed investment on education as human investment revolution' T.W. Scult (1961, 1971) and Becker (1975) had analysed the concept of human capital treating education and training as a form of investment producing future benefits in the form of higher income for educated individuals and for society as a whole. The concept of human

capital could be applied not only to education and training, but to any activity which enhance the quality and productivity of labour force. Thus the expenditure on health and hygine could be regarded as investment on human capital. Question could be raised on how profitable it would be either for individual or for society to invest resources on education and training vis-a-vis on physical capital. A review study of Pscheropoulous (1973) showed that in developing countries the rate of retun to education exceed the rate of return to physical capital. Cost-benefit analysis techniques have been applied to education in order to compare the costs incurred on education and the returns/benefits derived from investment on educ-ation and training. Cost-benefit analysis provides a resource of private or social rate of return to investment in education. This show's the relative profitability of investment on human capital for individual or for society.

Pscharopolous (1973, 1981) had revised various studies conducted on rate of return and observed that

I) return to education is higher in LDC countries than those of DCS

II) private rate of return is higher than social returns

III) private and social rate of return of primary education is higher in all countries

IV) rate of return of general education is higher than that of vocational/technical education

V) private rate of return of higher education is more compared to social rate of return of higher education.

The rate of return for primary, secondary and higher education are 25 percent, 13 percent and 11 percent respectively. These findings have far reaching policy implications for LDC countries.

The cost of education could measured in term of

1) <u>Institutional Cost</u>

   a) Recurring

   b) Non-recurring

2) <u>Private Cost incurred by Family includes:</u>

   a) Tution cost and fees

   b) Cost of books

c) Cost of Uniform

d) Cost of Maintenance

e) Cost of Transportation

C) <u>Opportunity Cost</u> - implies income forgone by the students which they would have earned by engaging themselves in some sort of productive activity instead of attending schools and colleges. The concept of opportunity costs has doubtful validity in our country due to higher incidence of unemployment.

D) <u>Unit Cost could be calculated by taking</u>

I) Student as an unit

II) Institution as an unit

III) Class as an unit

<u>Benefits of Education</u>

Benefits of education could be measured in terms of extra life time earnings enjoyed by educational manpower compared with the income of uneducated or with workers with lesser level of education.

<u>Investment of Resources:</u>

The concept of the rate of return to investment of education should decide how the resources should be

invested. Comparision between the rate of return to human capital and to physical capital may-be a guiding factor to the question: how much of resources we should invest on education ? Again, comparison between rate of return to different levels/type of education may provide guideline for resource allocation within the educational system.

Contribution of education to development:

Education and development are bidirectionally related. Education contributes to development in various ways. Education inculcates social, economic, political technilogical and cultural competency in people through knowledge, skill, motivation and actitudes to undertake various development tasks. It provides efficient techniques of integrating man, material and resources. It reshapes the consumption and saving behaviour of people. Consequently the production or trade of those items of consumption increases and employment structure changes. It changes quality of life by eradicating orthodoxy, traditionalism status quo and other social evils. It continously examines the goals and demands of development in order to decide what type of knowledge, skill, competency, values and

attitudes to be inculcated for development. Consequently the curriculum revision takes place. It diffuses scientific and technological knowledge into agro-industrial production and infrastructural development. Hticks (1980) reported significant correction between literacy level and life expectancy indicating that education could enhance health and hygiene status of basic population. Rise in literacy could reduce fertility rate and thereby may affect the demographic composition of population. Education play a key role in effective functioning of democratic institutions. Scultz (1975) had visualised a significant a significant role of education for maintenance of stable market conditions and to deal effectively with market disequilibria. Spiegleman (1968) had found that education could reduce juvenile crime rates in society. Education makes people conscious about prevalent socio-economic inequalities. This consciousness incluce people to obtain solution through political transfermation. Certain amount of education is indespensable for obtaining advantage from various development schemes operating in the region. A large share of national/state budget are allocated for education in the belief that education would provide skilled manpower for development.

Development condition also affect various aspects of educational advancement in a country.

A developed society is in a position to allocate higher resources for education. Without higher resources advancement of education in terms of quality, quantity, equity, availability and accessibility may not be possible. Inspite of higher allocation for education the real content of educating investment may be eroded due to price - rise a market mechanism associated with initial tasks of development. Consequently, costs of educational goods and services may go up. The level of development will decide the level and type of education which may contribute to development further. In traditional society literary may act as a catalytic agent of development. In a developing society investment on primary education would be fruitful. In a developed society investment on vocational education or higher education may be remunerative.

Education and Development influence each others advancement. It is because of the fact that education system is a sub-system of wider development system. The other sub-system are political sub-system, economic sub-system, socio-cultural sub-system, technological sub-system, ecological sub-system. The sub-system are

mutually interlocked. The sub-system influence the total system and the total system influence the parametres of the sub-system. Advancement of education cannot by pass the needs and constraints of other sub-system. The relationship between education and development could be explained by the logic of circular causation and cyclic inter-dependence. In a traditional society the role of education is limited. But with the onset of development, education sub-system assumes new roles and responsibilities. As development proceeds additional roles and responsibilities are assigned to education. Education alone cannot initiate development. It is to be conjoined with other developmental inputs and institutional reforms.

Aggregate of all types/levels/stages of education may not give a clearout idea about the type, level and stage of education having relevance to development. Pscachoropoulous (1973, 1981) on the basis of empirical findings has observed the rate of return of primary education is more in all countries. If the level of development in a country is low, vocational, diversified education may have little relevance to development

(Foster, 1966 Pscheropoulous and Loxey, 1985, Tilak, 1988)

Demand for Educated Manpower

The studies of Arrow and Cardon (1959) Parnes(1962), Correa and Tribergen (1962) Harbinson and Mayers (1964), Tinbergen and Bos (1965) are some of the important studies related to manpower assessment. In Manpower Requirement Approach the Requirements of various types of manpower categoried according to educational levels for different sectors of economy is projected for a specific period in the future. But this assessment has a number of limitations 1) Manpower needs of future is to be anticipated keeping in view the probable technological changes. But technological change governed by inventions and innovations are basically unpredicable. In a developing country like India manpower assessment for organised sector may be misleading since bulk of the labour force is employed in urorganised sector. Again these are no fixed educational requirements for the majority of jobs. The assumptions and conclusions of rate of return Approach or cost benefit approach have challenged the validity of manpower requirement approach. The controversy between manpower requirement

approach and cost benefit, approach attracted considerable attention during 1970'S Blaug (1967) had observed thats" social demand projections, manpower forecasting and rate of return analysis are in fact complementary techniques in educational planning".

Financing of Education

Another issue of Economics of Education centres round how education should be financed and how the financial burden be distributed between the central government the state government employees, and the individuals. The social and private rate of return should decide:

I) The level/type of education where individuals should pay more.

II) The level/type of education should be subsidised

The costs of Primary and Secondary education in most countries are subsidised and are financed out of taxation and other government revenues. Students receive free schooling and fees are lower at primary and secondary level.

Economic Theory though cannot answer who should pay more in education but could provide a guideline. The rate of return, effeciency and equity implication should provide guidelines on who should pay more and it may keep in formulating alternative methods in financing education.

Internal Effeciency of Education System

Internal effeciency refers to the relationship between input and output of a process. A lot of research has been undertaken on the relationship between inputs and outputs in educational institutions. This is known as internal effeciency. One of the technique to measure internal effeciency is cost effectiveness analysis which is used to compare the effeciency of alternative ways of achieving the same objective. For example, comparison between different type of institutions may be done to examine which of the alternative achieve a stated objective at minimum cost.

Economic Effeciency of Education Sector vis-a-vis other sectors.

In economics of education a large number of researches have been conducted on the question of how the resources of a country be allocated between education and other sectors. The critarion of Pareto effeciency or optimality suggest that cost benefit analysis should be the principal guiding factor for resource allocation in order to project that investment on which sector is more projectable, But cost benefit analysis could not succeed in measuring all the indirect benefits of education vis-a-vis benefits from investment in other sectors.

Resource Allocation

Equality and effeciency should be the guiding factor in resource allocation.

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Manpower Planning in Education vis-a-vis Teacher Education

Prof. R.C.Das

1. Manpower in education is fasically the number of teachers required. We also need some non-teaching personnel in education which can be determined separately. The administrative personnel are usually recruited from teachers. We shall discuss only teacher manpower planning.

2. Manpower planning essentially means making intelligent estimate of future requirement(demand) of manpower and making provision in planning for supply of manpower to meet the demand. Estimate of future requirement of manpower is made by studying the trend in manpower employed during the immediate past few years and fore-casting future requirement taking into consideration projection of this trend and other factors influencing the demand.

3. The number of teachers required depends on the number of pupils enrolled, usually, teacher-pupil ratio is calculated by dividing the number of pupils enrolled by number of teachers employed and this is used for estimating future teacher requirements.

4. In India, a comprehensive study of teacher manpower requirement for Haryana state was made by S.Borthakur(1978).

Taking a stratified random sample of 188 secondary schools of the state, he obtained comprehensive data of pupil enrollment and teachers employed (sex wise and subject wise) during the five years 1971 to 1975 and used the data for developing a procedure for forecasting future teacher requirement upto 1985. Some of his significant findings are as follows:

(a) There was significant difference in the teacher-pupil ratio during the years (1971-1975).

(b) Ratio of teachers in each subject to total number of teachers varied significantly from year to year.

(c) Teacher pupil ratio of women teachers and girls enrolled varies significantly from teacher pupil ratio of total teachers and total number of pupils (of both sexes).

(d) There is no significant difference in the rates of replacement of men and women teachers due to death and retirement.

(e) There is no significant difference in the rates of replacement of men and women teachers due to resignation and leave.

(f) There is significant difference in the teacher-pupil ratio of government and non-government schools

(g) There is significant difference in the teacher-pupil ratio between rural and urban schools.

5. Borthakur showed that teacher-pupil ratio Tr is a function of time, No. of pupils P enrolled is also a function of time. In a particular year total number of teachers = teacher pupil ratio for that year x No. of pupils enrolled in that year.

   T = Tr x P.

   Further teacher pupil ratio has to be determined separately for different categories of teachers: Men, Women, Science, Arts, Urban Schools, Rural Schools etc.

6. Plotting teacher pupil ratio against year (time), a graph is obtained. The trend line is a st.line passing through the points for mid-year in the graph and is given by the equation Y = a = fx

   Y= Teacher pupil ratio

   X - Year

   where $a = \frac{EY}{N}$ = mean teacher pupil ratio

   $b = \frac{EXY}{EX^2}$

   where x = time in years and y = teacher pupil ratio. Using the trend time teacher pupil ratio for a future year can be forecast. Same procedure can be used for obtaining the no. of pupils in any future year.

The number of teachers obtained should be corrected by adding replacements due to death and retirement and due to resignation and leave.

7. The teacher supply for a state should be equal or marginally more than the requirement (demand). So in planning teacher education in a state, the requirement of teachers for the coming five years should be estimated (forecast) from the trend-line of teacher pupil ratio and trend line of pupil enrollment for the last five years. Further the total requirement of teachers should be expressed in terms of men and women teachers and in terms of science and language & Soc. Studies teachers. Provision should be made in teacher education institutions for enrollment of adequate number of men and women teachers and adequate number of science and language & Social Studies teachers.

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Educational Planning and Management

Dr.D.K.Bhattacharjee

Introduction

Educational Planning and management are considered as significant inputs in educational advancement of a country. Taylor (1949) had suggested separation of Planning from management since planning is one of the responsibility of management. It is also necessary to highlight the distinction between administration and management. Though there two terms are mostly used as synonyms but quite many a time they are used differently as well. Keeping in view the Indian situation 'Administration' is understood to be the top level hierarchy where the policies are framed and plans are checked out. Management refers to those functionaries who gets the policies or plans executed.

What is Educational planning ?

Educational planning implies search for direction for future action to achieve predetermined objectives of education through optimum and economic utilisation of resources.

Levels of Educational Planning

Educational planning exercise could be undertaken at various levels.

1. Macro level : When the plan is formulated for the entire country or state it is known as macro level plan.
2. Meso Level: When plan is formulated for a natural region or administrative region division of a state it could be termed as meso level plan.
3. Micro level: In micro level plan, planning exercises are undertaken at district or block or at village level.
4. Institution level: At institution level educational planning unit is an educational institution or a school.
5. Multi-level: Planning exercises undertaken at macro, meso, micro and institution levels are mutually inter-linked and complementary to each other. For example macro level plan may outline the priorities, targets at national/state/government level. But micro-level plans may modify the targets and priorities set at national/state level in view of local conditions peculiarities and needs. Thus planning is to be viewed as a comprehensive interactive process and not as a compartmentalised block. It is due to this inter-relationships between planning exercise undertaken at different levels.planning process becomes multi-level.

Approaches to planning : The major approaches are :

1. <u>Centralised Planning</u>: If the planning is rigidly controlled by central/national government for implementation it is known as centralised planning. Many developing countries of Asia, Africa and latin America had adopted highly centralised planning immediately after political independence due to following factors:

i) Immediately after independence the central governments in various countries had assumed major roles in national development.

ii) Need for a strong state intervension to break structural constraints of economy.

iii) International agencies providing funds wanted that the initial plans to be carried out under controlled conditions.

iv) capacity to manage plans at local level was inadequate.

v) International capital sought the protection and patronage of central control and management.

vi) Many countries lacked socio-political solidarity and were divided by serious ethnic, religious or cultural differences which require central government to cultail local autonomy.

<u>Weakness</u>: The centralised planning has following weaknesses:

1) It cannot incorporate specific local conditions, infra-structural availability and aspiration of local people into the plan.

2) It could not involve the field level functionaries at planning stage. Consequently, the difficulties faced at local level is not reflected in the plan.

2. <u>Decentralised Planning:</u>

Decentralised Planning has the following features:

i) It involves transfer of functions and decisions from central to local governments/autonomous agencies/semigovernment organisations/regional development authorities, special projects/local development authorities and non-government organisations.

ii) It allows greater representation of varied ethnic, Political, religious and tribal groups in decision making leading to equity.

iii) It develops greater administrative ability among local functionaries and institutions.

iv) It ensures careful supervision of implementation of Plans.

v) It allows penetration of national policies into remote areas disadvantaged areas where government plans seldom goes to disadvantaged people.

<u>Pre causion:</u> Decentralisation is not always desirable. Each proposal for decentralisation must be evaluated on its own merit. The capacity of local leadership and

organisations to perform complex development functions must be established before hand.

3) <u>Intersectoral approach</u>:

Educational planning cannot be undertaken in isolation. It is to be linked to developmental needs of other sectors. The Education System is a sub-system of wider development system. The various sub-systems of development system are:

1. Political sub-system
2. Economic sub-system
3. Socio-Cultural sub-system
4. Technological sub-system
5. Ecological sub-system
6. Education sub-system

These sub-systems are interlinked to each other. The needs and constraints of other sub-system will decide what type of education we should have and what should be the content of education. In a traditional society literacy may act as a catalysic agent of development. In a developing society primary education may contribute to development more.In a developed society vocational and technical education may be remunerative. Thus stage of development of the country decide and the developmental needs of various sectors will the type and content of education.

Therefore, education is to be linked with developmental needs and constraints of other sectors. In other words Education should lead to development of other sectors. For example, a list of developmental tasks related to various sectors are given below for which we are to plan our educational inputs in terms of knowledge, skill, competancy attitude and values.

1. Agriculture
2. Irrigation and water management
3. Rural Electrification
4. Transport and communication
5. Marketing and Distribution
6. Forestry
7. Animal husbandry
8. Horticulture
9. Sericulture
10. Social Services such as health, mutrition, housing and water supply
11. Panchayat system
12. Coperative and credit societies
13. Cultural Elements like Music Dance etc.

Education has a sifnificant role in developmental tasks of various sectors.

Planning Process: Planning Process involves the following steps.

1. Pre-Plan activities: It involves

   i) Diagnosis of needs and difficulties of existing educational system

   ii) assessment of existing organisational set-up

2. Prioritization: Due to paucity of resources, the question of assigning priority comes to focus.

3. Setting Targets: It involves:

   i) identification of target group

   ii) setting target of financial allocation

   iii) setting target of time inputs

4. Programming

Plan of education sector may be broken into specific programme area such as UEE, Vocationalisation of Secondary Education etc. Against each specific programme area the following decision are taken:

i) Strategies of implementation

ii) Organisational/Operational approaches

iii) Schedule of action

5. Project Formulation:

Each specific programme areas could be further broken into micro-level action plans/specific activities. For each activity we are to chelk out:

i) Identification of implementation agency

ii) Human resources requirements

iii) Non-human resoirce requirements

iv) Time frame

v) Potential constraints

vi) Monitoring techniques

vii) Evaluation/feed back techniques

6. Plan Feasibility:

At this step final checking of feasibility of each component of plan is to be undertaken

7. Implementation: It involves:

i) Carrying out of all managerial functions with effeciency, economy and care

ii) establishing communication channel among different points of organisation

iii) Continuous monitoring and feedback

8. Evaluation: A comprehensive Evaluation covers all aspects of an educational project such as:

i) deployment of resources

ii) financial management

iii) personnel management

iv) organisational design

v) communication

vi) outcome

vii) level of Efficiency

Micro level Planning:

In view of the failures of micro-level plans in our country micro level educational plans are to be undertaken following intersectoral approaches.

Advantages: The micro level plan has the following advantages:

1) It is more responsive to local needs and problems in a country like ours where we have socio-culturally and ecologically deiversified regions.

ii) It focusses on specific and varied needs of even smaller sections of the community

iii) It encourages local participation in both planning and implementation

iv) It could reduce the time gap between planning and implementation

v) It helps mobilisation of existing resources and generation of new local resources.

vi) It helps the local management to recast plans in view of changing socio-cultural, political and economic circumstances of local people.

vii) It develops a sense of critical analysis of day-to-day problem of local people. This affects the level of understanding and future quality of life of local people.

PROFESSIONAL PREPARATION OF TEACHERS PRE-SERVICE AND INSERVICE

Prof.R.C.Das

A. Pre-Service

1. Teacher Education Curriculum - A Frame work was brought out by the National Council for Teacher Education (NCTE) in 1978.

   In 1986 the NCTE set up two working groups - one on Revitalization and Modernization of Pre-service Teacher Education and the other on In-service Teacher Education.

   In 1988, the NCTE appointed a Drafting Committee to develop a revised Teacher Education Curriculum Frame Work. The Committee has prepared its recommendations. Two other Committees of NCTE have given their recommendations: one on Four Year Teacher Education Programme and the other on Teacher Education for +2 stage.

2. New Concernes for teacher education -
   a) The teachr should be able to help in the universalization of elementary education.
   b) He should be able to implement non-formal and continuing adult education.
   c) He should be able to impart education in values.
   d) He should be able to use media and educational technology including computers.

e) He should be able to stimulate social change and social development.

f) He should be able to impart education to the disabled under integrated education programme.

3. Further the teacher should have adequate knowledge of content of the subject he should teach and know the appropriate method of teaching for that content. For this purpose the teacher education programme should deepen the content knowledge of the trainee and integrate methodology with content.

4. Primary teachers should have adequate training in multiple class teaching, as we have a large number of single or two-teacher schools.

5. NCTE has recommended 4-year teacher education programme as an improved model of teacher-education.

B. <u>In-Service Education</u>

6. Need -

(1) Pre-service teacher education gives only preparation for entry to the profession. He needs further supplementary education for his effective functioning and growth in profession.

(2) His knowledge is to be updated and upgraded.

(3) He needs support and guidance to tackele the practical problems he faces in the school.

7. N.C.T.E. recommends that every teacher should attend a programme of inservice education at least once in five years.

8. Proper incentive should be built into the programme of inservice education, such as

   (a) leading to higher degree/diploma

   (b) recognition by the department of additional increment/promotion.

9. Modalities: face to face contact programme; self-learning materials; Correspondence Courses.

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COGNITIVE DEVELOPMENT IN SCHOOLED AND NON-SCHOOLED CHILDREN : EVIDENCE FROM CROSS-CULTURAL STUDIES

Dr. U.N. Dash

Prof. J.P.Das

Introduction:-

The superiority of schooled children over their non-schooled age group has been documented for a large variety of cognitive tasks, thus suggesting that something in schooling promotes cognitive development. The exact mechanism by which schooling brings about cognitive changes is not very clear. However, several speculations have been made.

Bruner (1966) points out that the use of written language in school facilitates linguistic competence, and thus sum.olic functions in general. Language is the predominant mode of transmitting and acquiring information in school. Thus teaching and learning can occur without explicit reference to natural contexts. Compare this with the source of information available to a non-schooled child who learns to do things by observing his father or an adult member of his group. This is an instance of observational learning where meaning is intrinsic to the context. Hence, there is little need on the part of the adult model to provide a detailed verbal formulation of a particular practice for the child.

In non-school settings, the child participates in the demonstration of a particular event a number of times. Then he acquires a generalised way of performing that activity even though he may not be able to give a precise verbal formulation of that activity.

In school, learning of a concept begins with a verbal formulation of a general rule. Over the course of time, the student connects this general rule with empirical referrents. So it is not surprising to find that school children give a more adequate description of the rules of problem solution than do their non-schooled counterparts(Scribner and Cole, 1973)

The predominant use of written language in school helps children in abstraction and generalisation. Olson(1977) remarks that as children are exposed to the alphabetic script and printed text, they develop new models of thought and acquire unique kinds of logical competence. That is why schooled children are good at solving verbal problems of the form: 'Wherever it snows, the colour of bears if white. It snows in Vladivostok; what colour is the bear there ?' Because of the linguistic training imparted in schools, children differentiate between 'what is said,' and 'what is meant'. This allows thought processes to be freed from concrete situations and actions, thus enabling schooled

children to engage in symbolic manipulations of objects and events.

Another consequence of schooling, as noted by Scribner and Cole (1973), is evident in a child's ability to regard an event as an instance of a general class of events, and to search for general principles that can be applied to understand specific instances. A similar observation has been made by Vygotsky (1962), who suggests that children in school engage in aprocess of inductive reasoning while mastering 'scientific concepts. Ashton (1975:495) remarks that school children learn to appreciate processes rather than specific products, as thay 'speak ideas about ideas'. By being forced to process information along increasingly abstract dimensions, school children develop a conscious awareness of the mechanisms by which they solve cognitive problems. The cognitive benefits accruing from formal educational experience are thus largely attributed to the written form of language used in schools, emphasis on abstraction and generalisation, and teaching of universal principles by way of definitions.

Description of the Research Project

Our research project provides some empirical evidence with respect to the course and rate of cognitive development

in schooled and non-schooled children in rural Orissa. Both groups come from the lower socio-economic stratum of society. Our aim was to find out the performance characteristics of interest was to see if schooling brings about cognitive alone. If so, would schooled children perform at a higher level on all kinds of intellectual tasks, or would their performance superiority be restricted to only a few specific kinds of cognitive skills ? This gave us an opportunity to find out not only the skills which improve through successive years of schooling, but also those which remain relatively unaffected at the elementary levels of schooling experience.

The tasks used in our study feel into three categories. The tasks in the first category were derived from Piaget's developmental theory and dealt with concrete operational thinking. Concrete operational thinking characterises a child's mode of thought in the age group 7 to 11 years. The skills in this group encompass children's ability to appreciate that the physical transformation of a substance does not change the amount of substance, to serially order objects with respect to a given attribute, to infer the relationship between two objects given the relationship of each separately with a third one, and to understand that a class (e.g., animals) contains more elements than any of its constituent sub-classes

(e.g.,cows). The skills mastered in the concrete operational stage are many; the four skills described above are, however, the predominant ones. We used a few tests to tap some of these skills as those are very basic in a child's developmental stage, and to examine the relative influence of educational experience and maturation on the development of these skills.

The second set of tests was derived from the information processing model of Das, Kirby and Jarman (1975, 1979), and dealt with the development of simultaneous and successive processing. On the basis of the physiological and clinical research of a Russian Psychologist, A.R.Luria, it is found that the human brain processes information either simultaneously or successively. In simultaneous processing, the individual codes different pieces of information simultaneously, such as in copying a geometrical figure or finding the missing piece of a pattern. Successive processing comes about when the individual is asked to repeat a sentence he has just heard, to order objects in a sequence, or to tell a story immediately after he has heard it. These two processes are basic to any human behaviour and come into play as the individual begins to understand his environment. It should be noted here that these two are processes and not abilities;

unlike abilities they describe, the mechanisms underlying performance. In earlier research (Cummins and Das, 1977), simultaneous and successive processing have been related to reading, writing and verbal comprehension. These skills are fostered in the first few years of schooling. Since our study is aligned with a process-oriented approach, we decided to use a few tasks to tap these two basic coding processes in schooled and non-schooled children.

The tasks in the third group assessed memory and problem solving skills. The development of memory and problem solving skills is an important area of research in cross-cultural psychology. The tasks used in our study assessed memory for locations, and memory for verbal materials. The task on problem-solving required children to solve verbal-logical problems of the form: 'Wherever it snows, the colour of the bears is white. It snows in the Sovier Union; what is the colour of the bears there ?' This task requires children to draw inferences from given premises without importing any external information into the problem. It is with the help of the three sets of tasks described above that we began to investigate the cognitive consequences of education in a rural population which represented the lower socio-economic stratum of the society.

Sample: The sample in our research consisted of 250 subjects with 50 children drawn from each of the following subject populations: (i) 4-6 year old pre-school children, (ii) 6-8 year old non-schooled children, (iii) 6-8 year old schooled children in Class 2, (iv) 10-12 year old non-schooled children, (v) 10-12 year old schooled children in Class 5. The mean ages of the five sub-groups were 5.25, 7.5, 7.4, 10.75 and 10.8 years respectively.

Descriptive Sample Characteristics:

The testing project was conducted in fourteen villages in the locality of Angul, which is a small town approximately 100 miles north of Bhubaneswar, the capital of Orissa. The demographic characteristics of these villages are highly homogeneous. At least 75 per cent of the villagers are of a lower socio-economic status, and earn their livelihood from agriculture or from unskilled labour on a daily wage basis. The population of the village varies from 1,000 to 2,500 with an adult literacy rate of less than 25 per cent. The villages are underdeveloped, and there are no modern facilities for agriculture.

The schooled and non-schooled subjects were from the same villages. In order to keep the major socio-demographic characteristics of both the groups relatively homogeneous,

the sample included only boys selected from middle caste homes in these villages. On the basis of our observations, and those of the workers in non-governmental agencies in that region, we can assume that school attendance was influenced by idiosyncratic individual characteristics rather than by any significant difference in the general intellectual level between those children who attend schools and those who do not. If a child does not go to school, he is asked to help his parents in household work or on the farm.

We obtained information on major socio-demographic characteristics of the schooled and non-schooled samples through a structured questionnaire. On closer analysis, it was found that the three important socio-demographic variables were father's education and occupation, and per capita income of the family. The schooled and non-schooled groups practically did not differ significantly with respect to their major socio-demographic characteristics.

The fourteen schools sampled in this study showed very little physical variability. Typically, a school consists of three or four rooms, and five classes (Classes 1 to 5), with more than one class in a room. The curriculum of these

schools is exactly the same as in any other school in Orissa. Because of the poor training of teachers and the lack of availability of any instructional aids the quality of teaching-learning conditions in these schools is very poor. Rote-learning as the technique of teaching and mastering the contents of the curriculum is the rule, and it is followed tenaciously by both teachers and pupils.

In the following sections, we cite research evidence obtained from different parts of the world as well as from our project in the area of schooling and development of cognitive skills. The facts and findings are findings are presented in a manner compatible with the level of understanding of psychologists as well as those who are interested in the subject but not very well acquainted with it. The research evidence is presented in several sections, each one examining the effects of educational experience on a specific area of mental development. The general scheme of presentation adopted here is prevalent in research literature.

Cognition and Schooling: Evidence from Piagetian Research

The theory of Jean Piaget provides the most dominant frame-work in research pertaining to children's understanding about their world. Children, as they begin to interact with

their environment, pass through four chronologically successive stages to finally understand the world in more formalised and abstract ways. The sensorimotor stage begins at birth with a child's persistent attempt to accomplish an overall coordination between his sense and motor organs. In the second stage, which spans 2-7 years, a child's understanding is dominated by his own perceptions and prelogical thinking. In the third stage (7-11 years), the child engages in concrete operational thinking which is more logical, but this time his logicality is applied only to concrete objects and events. The child attains the formal operational stage at about 11 years of age, and can engage in abstract thinking and hypothetico-deductive reasoning.

The concrete operational period has been widely researched as it spans the age range (7 to 11 years) of initial school attendance. It is during this period that the child's thought processes lose their intuitive character, and become more rigorous and logical. A child's thinking in this stage provides a base for logical and abstract thinking in later years. Earlier, some of the accomplishments of this period were briefly mentioned. The major feature of this period is that the child develops an ability to conserve substance, number, volume, length,

distance, area and various other logical-spatial concepts. If water is poured from a wider glass to a glass that is taller and thinner, the level of water rises, but the amount remains unchanged. Similarly, if a ball of clay is flattened, there is a change in the shape, but not in the amount of substance. The ability of the child to understand that the amount of water or substance does not change in spite of a change in its physical appearance is known as conservation. Conservation experiments study the development of basic processes of reasoning. The thought processes underlying conservation are decentering (not paying attention to a single striking dimension), reversibility (moving backwards in thought processes), and compensation (perceiving that change in one dimension is compensated by change in other dimensions).

The child in the concrete operational period can judge the relationship between two objects, given the relationship of each separately with a third one. For example, given the premises 'Rama is taller than Hari,' and 'Hari is taller than Ramesh,' a concrete operational child can deduce that 'Rama is taller than Ramesh,' This type of thinking is known as transitive inference.

Another accomplishment of the concrete operational period is to understand the class-sub-class relationship. 'Cows' form a sub-class of animals, and therefore the number of cows cannot be greater than the number of 'animals' A class is bigger than or at least as big as one of its sub-classes. This refers to the development of class inclusion concepts.

Cross-cultural studies of schooling and cognitive development have used tasks on conservation, transitive inference, class inclusion, and various other concrete operational skills to compare levels of schooled and non-schooled children in different countries. However, findings from studies using Piagetian tasks have not always been consistent. While several studies report no direct relationship between schooling and concrete operational thinking (de Lemos, 1969; Fahrmeier, 1978; Goodnow and Bethon, 1966; Kamara and Easley, 1977; Kiminyo, 1977; Mermelstein and Shulman, 1967; Nyiti, 1976), others have found that schooled children acquire concrete operational concepts much faster and earlier compared to non-schooled children (Greenfield, 1966; Kelly, 1977; Laurendeau-Bendavid, 1977; Okonji, 1971; Owoc, 1973; Philp and Kelly, 1974; Stevenson et al., 1978).

Inconsistent findings like these may be partly attributed to the selection bias. For example, in some studies (Fahrmeier, 1975; Stevenson et al., 1978) schooled children differed from their non-schooled counterparts only after a few weeks or months of schooling, while in other studies differences did not emerge until about Grade 3 or 4 (Owoc, 1973). Longitudinal studies comparing the performance characteristics of schooled and non-schooled groups indicate that differences between the two groups existed prior to school entry (Irwin et al., 1978). Other cross-sectional studies have reported schooling as a significant variable enhancing performance on cognitive tests; however, the demographic characteristics that covary with schooling were left uncontrolled. Consequently, the influence of schooling on cognitive test performance might have been over-estimated. Such biases in sample selection, and not schooling itself, may have unduly attributed cognitive superiority to those who attend schools. Many studies, however, failed to mention this as a problem while describing their sample characteristics.

A number of researchers have also commented that the developmental lag reported for non-schooled children may reflect defects in methodology rather than a slower rate of

cognitive development (Kamara and Easley, 1977; Nyiti, 1976). These defects include: (a) linguistic and cultural differences between the investigator and the subject; (b) a tendency to treat Piagetian tests as standardised performance tests; and (c) inaccuracy in determining a subject's age in non-Western societies. When these difficulties were corrected in some African research (ibid.), the differences between schooled and non-schooled groups disappeared. Several other studies carried out in different parts of the world have also supported these findings.

There are basically two lines of reasoning associated with why schooling should or should or should not influence performance on Piagetian tasks. The first approach considers the teaching-learning conditions in schools as beneficial for the development of reversibility, decentering, compensation, and logical concepts of addition and subtraction, which are crucial for solving concrete operational tasks. The second approach focuses on the organism-environment interactions in out-of-the-school settings, which are essential for the development of concrete operations. According to the second approach, it is hypothesised that there would be no influence of schooling on concrete operational skills.

Several authors have explained the findings of no difference in the following ways. Goodnow (1962) suggests that schools do not teach children to rely on their own creative and original thinking. On the other hand, children develop too much respect for book learning through rote-memory. The school curriculum does not incorporate activity involving manipulation of concrete materials. Children in school do not have enough time for the freedom needed for auto-regulating experiences which, according to Piaget, are crucial in the development of conservation ability. Conversely, they are taught ready-made rules to deal with their environmental problems, rather than learning them through acting on the environmental problems. The differences between schooled and non-schooled children would show up only in situations where schools provide an opportunity for the development of concrete operational concepts, and children do not get these opportunities in out-of-the-school environments. Since in technical and industrialised societies the cultural environmental properties for the development of certain logicospatial concepts are adequate, schooling in those settings is expected to have a minimal effect on the development of concrete operational skills.

The findings from our research project go in favour of the studies reporting no significant difference between

the schooled and non-schooled groups. The schooled and non-schooled children in the project came from families in the lower socioeconomic class of society, and were matched with respect to their major demographic characteristics as far as practicable. The defects in methodology, as pointed out in some of the earlier research, were well taken care of.

The concrete operational tasks used in the project were conservation of length and mass, transitivity and class inclusion. In conservation of length, children having agreed to the equality of two rods were asked to compare the two rods with respect to their length when they were kept in various positions. The conservation of mass required children to appreciate the fact that the amount of dough in two equal balls remain equal in spite of a change in the shape of one of the balls. The forms of transitivity and class inclusion tests were similar to what has been described earlier in this section.

It was found that concrete operational skills improved with age, not with schooling Cognitive development, as indicated by concrete operations, overlapped in schooled and non-schooled children. The Multivariate Analysis of Variance applied on four Piagetian tests taken together revealed a significant

age effect ($F[2,244] = 10.23, p < .01$); neither the main effects of schooling nor its interaction with age were significant ($F[2,244] = .80$, $p > .05$; $F[2,244] = .12$, $p > .05$), thus suggesting that the acquisition of concrete operational thinking was a function of age rather than of schooling. This may imply that children acquire concrete operational thinking in interacting with their environment which may not necessarily include experiences of schooling. We had assessed children's performance on verbal forms of some tasks, and have evidence to suggest that schooling exercises its influence where the mode of presentation is verbal. The order of acquisition of the skills under investigation were as follows: conservation of mass, transitivity, conservation of length, and class inclusion.

As far as our research is concerned, the elementary level of educational experience imparted in remote rural schools of India does not promote concrete operational knowledge over and above those resulting from maturation and experiences available in children's milieu (for a detailed description of the findings see Dash and Das, 1983). The educators, in cognisance of this research evidence, may consider incorporating in the school curriculum 'specific elements' requiring activities with concrete materials and objects. Teaching methods should be geared to promote reasoning and conceptual

thinking in children, and de-emphasise rote-learning as a technique of mastering the contents of the curriculum.

CONDITION AND SCHOOLING : EVIDENCE FROM EXPERIMENTAL RESEARCH

Three broad categories of cognitive tasks have been used in studying the effects of schooling. These are standardised intelligence tests, Piagetian tests, and tasks derived from laboratory studies of memory, problem-solving and concept attainment. Although the laboratory-based tests are relatively biased in favour of the schooled population, their use has clearly demonstrated how schooling influences the development of certain specific cognitive skills which may or may not be of importance use in non-school settings.

In summarising their results on a large variety of cognitive tasks, Sharp et al.(1979) report strong education-related effects for tasks which are less structured and more hypothetical, or which require toxonomic principles as the cofrect basis of classification. Education-related effects are greatly reduced and age-related effects become more prominent for tasks that are well-structured or can be solved by taking recourse to real-world knowledge. Thus, schooling does not influence performance on all

tests in an equal fashion. It promotes certain specific cognitive skills, such as deliberately remembering information as a goad in itself, dealing with abstract symbols, solving fancy mental riddles, and the adoption of specific learning and memory strategies. Hence, schooled children have an advantage over non-schooled children in test situations which assess these kinds of skills.

A large number of studies indicate that schooled children spontaneously engage in active remembering strategies like rehersal, grouping, and chunking. Thus, they are able to impose an organisation on a set of unrelated items to improve their recall score. If the organisational strategy in a cognitive task is made explicit for children, the effect of schooling is reduced. Thus, non-schooled children show deficits not in memory, as such, but in strategies helpful for effective remembering. Educated subjects, when presented with a set of objects from different categories (e.g., vehicles, tools, fruits, animals) in a random order, use their knowledge of taxonomic categories to organise recall. They recall objects category-wise, which in psychological literature is known as category clustering. As a result of category clustering, schooled children derive the benefit of improved recall. This benefit , however, does

not become prominent before the subjects have experienced some amount of secondary level education.

In our research, we used tasks to tap (i) category clustering at the time of recall, and (ii) memory for locations with the help of pictures. It was found that 2-5 years of educational experience did not improve subjects' ability to recall the objects categorywise. This finding is consistent with those obtained in earlier studies (Cole et al., 1971; Sharp et al., 1979). When the experimenter told subjects the category names of the objects in advance, it was only the schooled group which benefited from this external prompt. Thus, one effect of schooling as evident from our as well as other studies is that schooling improves children's ability to follow verbal instructions and make profitable use of it.

In memory for locations, we observed no significant influence of educational experience. For both the schooled and non-schooled groups, pictures presented towards the end of a set were better remembered (recency effect) in comparison to pictures given at the beginning (primary effect). The recall of the 'end' objects did not change as a function of age or schooling. However, recall for the beginning objects

increased with increased age, but schooled children did not show any superiority in this aspect of recall, which is regarded as a control process in memory and reflects the use of some amount of rehearsal strategies.

Besides memory, classification and concept-learning, another type of skill amenable to the influence of educational experiences is verbal-logical reasoning. Cross-cultural psychologists have made use of syllogisms and other forms of logical problems to investigate the verbal-logical processes of educated and uneducated subjects. Research carried out by Luria (1971) on the peasants of Central Asia indicates that relatively low levels of education can influence subjects mode of responding to verbal-logical problems of the form: 'Cotton grows where it is hot and humid. In the village it is hot and humid; does cotton grow there or not ?' The positive influence of education has also been documented in several studies (Cole et al., 1971; Luria, 1976; Scribner, 1975; Sharp et al., 1979).

Educated subjects treat the syllogistic reasoning problems as self-contained logical units from which inferences can be drawn without relying on any external source of knowledge. On the other hand, non-schooled subjects bring in their personal normative knowledge

to evaluate the problem-contents of the syllogisms, very often disregrading the verbal-logical relations existing within the problem. The syllogistic-reasoning problems, it is argued, represent a system of 'theoretical' thinking, and schooling papers children for this form of thinking at a relatively more abstract level. Thus, schooled children give more 'theoretic' explanations in justifying their answers to these types of problems.

We used syllogisms similar to those used in earlier studies. Consistent with the findings of the earlier studies, our data supported a developmental trend, but unlike theirs, it failed to register any significant influence of schooling on syllogistic reasoning performance which has been regarded as a fundamental process in cognition. The non-schooled subjects in our study performed at a relatively higher level compared to their counterparts in some cultures. Children in India, compared to those in Western and African cultures, engage in a lot of verbal interactions among themselves and with adults as part of their daily routine activities. It seems that growing up in a highly articulate culture may develop in children a sensitiveness to reasoning to the extent that they do well irrespective of school education. We also found that school experience may not always be helf-ful in solving certain kinds of syllogisma, particularly

those where the problem contents are contrary to the knowledge-base acquired in schools. These findings strongly suggest that generalisations concerning the poorer performance of non-schooled subjects should be made with caution as their performance characteristics are not universally found across all cultures.

EFFECTS OF SCHOOLING: AN INFORMATION PROCESSING ANALYSIS

A large number of studies relating schooling to cognition were not motivated by any theoretical perspectives leading to an indepth exploration of cognitive processes but rather by an interest in trying out standard psychological tasks in other cultures (Rogoff, 1981). Piaget (1976) points out the limitations of this perspective: 'To explain a psychological reaction or a cognitive mechanism ... is not simply to describe it, but to comprehend the processes by which it is formed. Failing that, one can but note results without grasping their meaning (p.vi).

Recently, there has been a shift from the study of abilities to an enquiry into processes (Das, Kirby and Jarman, 1975, 1979). An understanding of the processes by which individuals solve a particular task provides knowledge of how they can be trained to do them more successfully,

and how educational programmes can be better designed to cater to individual differences. The scheme of information-processing analysis adopted in our study was developed by Das, Kirby and Jarman (1979), and has not been used in any previous cross-cultural studies of schooling and cognition. This model identifies two coding processes known as simultaneous and successive syntheses. The characteristics of these two processes have been described in the earlier part of this paper. It is with the help of a few tasks designed under this model that we wanted to examine how efficiently schooled children integrate information compared to their non-schooled age-mates.

We used Figure Copying and Memory For Designs to measure simultaneous processing. The former was developed at the Gessell Institute, and required children to reproduce ten geometric patterns of increasing difficulty which are then scored according to the accuracy of reproduction. The second test was derived from Graham and Kendall (1960) in which the subject reproduced fifteen simple straight line designs from memory after each one was shown for a five-second viewing period. The Digit Span Test together with Serial Recall was used to assess successive processing. The Digit Span Test required children to recall a series of digits keeping the order of presentation intact.

The nature of the Serial Recall Test was the same as that of the Digit Span, except that it dealt with words instead of digits.

We observed that simultaneous and successive processing seemed to increase both as a function of age and educational experience. Through successive years of schooling experience, the differences between the schooled and non-schooled groups became increasingly wider in favour of the former. The correlational analysis suggested that the two coding processes became progressively differentiated as a function of educational experience. Successive processing appeared to develop much faster in children who attended school.

The pattern of improvement in simultaneous and successive coding processes can be examined with reference to the teaching-learning conditions in schools. In schools, children learn the alphabet, and learn to write letters and words. The skills required for writing letters involve analyses of the letter patterns, and subsequent reproduction of these patterns. One important aspect of the letter-writing skill is the child's simultaneous grasp of the structural components of the letters, which through

extended practice imparted in schools improves gradually. A failure in this skill results in confusion, which is noticed, for example, in the English language when a child confuses between the letter 'b' and 'd'' and 'q,' or between the numbers '6' and '9'. Gradually, the child learns to connect letters to form meaningful words, words to form sentences, and then uses sentences to construct small paragraphs to embed a stream of thought in a temporal order. Thus, following the initial acquisition of printing and recognising alphabets the skill mostly in demand is decoding which requires successive processing (Cummins and Das, 1977). The skill involved in arranging word elements in a sequence to construct sentences is also characteristic of successive processing, which develops as a child is engaged in school in an elaborate and extended practice of word and sentence construction (Das, Cummins, Kirby and Jarman, 1979). At this stage, the child also acquires deliberate remembering devices, and begins to develop awareness of a formal linguistic structure - an opportunity which is relatively lacking in the non-school child's environment. So successive processing develops much faster in schooled than in non-schooled children. Beyond the initial stage of reading, as the child becomes aware of the semantic as well as the syntactic aspects of

sentences, and as comprehension is increasingly demanded of the child, relational analysis or simultaneous processing assumes an increasingly important role (Kirby and Das, 1978). Thus, the development of simultaneous processing is facilitated by schooling as well.

We have research evidence to show that the two coding processes underly the competence in both verbal and non-verbal domains of human behaviour. Our data suggested that simultaneous processing provides an appropriate strategy for solving concrete operational and syllogistic reasoning tasks, while successive processing in some instances may become a liability. However, it is not exactly clear how simultaneous processing comes into service while performing on these tasks. The importance of our research lies in its attempt to understand which process underlies concrete operational and verbal-logical performance; but a different sort of experiment should be designed to examine how simultaneous processing is specially used.

The schools sampled in our research were poor in terms of their teaching-learning conditions. If comparisons are made between non-schooled children and children from schools with improved standards of instruction, curriculum and educational facilities, a larger effect of education is,

of course, expected. It should be noted that as the schools vary in their quality of teaching-learning conditions, so do the socio-demographic characteristics of children who reach these institutions. Hence, the effect of better quality schooling may be confounded with many other factors that covary with it. As far as our research is concerned, schooling of even poor quality, which is the only type of schooling available in remote rural areas in this part of India, seems to accelerate two basic cognitive functions: simultaneous and successive processing. Thus the information processing analysis, as suggested here, seems to provide a basic theoretical framework for conceptualising the cognitive consequences of schooling.

IMPLICATIONS OF THE RESEARCH FINDINGS

On the basis of our research, which is primarily theoretical in its orientation, it is hard to come up with specific suggestions that can be passed on to teachers for their ready-made reference in primary school settings. However, several general and broad-based implications from this research may be utilised while planning elementary school curriculum.

One strategy of delivering maximum benefit to pupils through schooling is to capitalise on the skills they

acquired well, while at the same time attempting to improve the skill areas where they show some amount of deficiency. The two coding processes, simultaneous and successive processing, which seem to develop well at the elementary school level should be taken cognisance of by the teachers, and instructional programmes be planned taking into account the strength of an individual student or groups of students in one type of processing or another. The contents of the curriculum may be taught either in a simultaneous or successive fashion depending on the student's preferred mode of processing information. The precise nature of the instructional designs capitalising on one or the other mode of processing is a matter for future research.

The schooled children in our sample did not differentiate themselves from the non-schooled group in the area of concrete operational development. In school, the child's role in the learning process was one of passivity and unquestioning acceptance of the teacher's ideas, which left little flexibility for the transformation of the facts being taught. Neither the curriculum nor the teaching process made any provision for students to self-regulare their experiences, to evaluate the utility of the learnt material, and to construct a knowledge-base

through empirical observation, which according to Piagetian theory are crucial for the development of concrete operational skills. We would, therefore, suggest remedying these deficits present in the educational system.

We would do better if we placed emphasis on what the child learns rather than on what we think we are teaching. Since knowledge is a construction from within, learning has to be an active process, and children should be encouraged to learn by acting on the environment rather than by accumulating information from the external world. The educational curriculum should be appropriate to the developmental level of the child, and should make provisions for manipulating concrete objects so that children can pursue it through their own curiosity and interest. Since learning is a part of the socialisation process, the teaching-learning process should promote social interactions among children and relate the classroom environment to the wider contexts of a learner's life. The suggestions given are very general in nature, and translating them to specific forms which can be practised by a teacher in school, remains a concern for future research.

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PSYCHOLOGY OF LANGUAGE TEACHING:- FROM THEORY TO PRACTICE IN ADULT SECOND LANGUAGE ACQUISITION

Prof. Ajit Kumar Mohanty

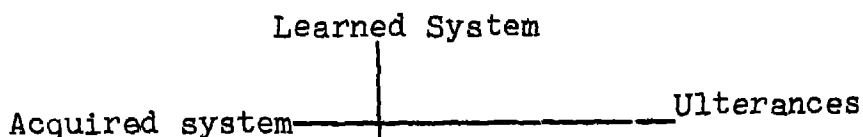
I. Two processes in Adult Language Learning -

(1) A natural communication -concerned not with the form but the message conveyed in utterances.

(2) Conscious language learning - A system of conscious error monitoring.

Utterances are initiated by a natural communication system (Acquired system) but the conscious monitoring (Learned system) is used to alter the output of the acquired system.

Learned System

Acquired system ——┼—————— Ulterances

Conscious monitoring requires time and a "focus on the form" and a knowledge of the rules. But, the acquired system is based more on a feel for grammaticality'. An optimal language learner (user) uses monitoring (by the learned system) as a real supplement to the acquired system in such a way that the 'monitoring' does not get in the way of communication.

II. Thus, if our major goal in language teaching is the development of communication abilities conscious learning makes only a small contribution to such communicative ability. A good language learner is primarily an acquirer and doesnot over use (nor underuse) the monitoring process .

III. Attitude of the language learner is an important factor is communication ability whereas aptitude is more important for use of conscious grammer or monitoring. Attitude is, therefore, of primary importance inlanguage learning.

IV. Communicative language teaching in an informa l environment is conducive to real language use (communication) whereas formal environment and emphasis on form may help the monitoring process.

V. In case of second language learning the "interference" of the first language is not the first language getting inthe way of the second langugge skills. Rather, it is the result of the performer 'falling back' on old language when he or she has not acquired enough of the second language, the first language becomes an initiator of utterances

in second language. Thus, first-language influenced errors in second language occur due to inadequate acquisition of second language particularly in case of foreign language learning situations where opportunities for real communication are fewer.

VI. To built up and maintain social communication and conversational skills routines (whole sentences or phrases e.g. How are you ?) and patterns (sentence frames with open slots, e.g. That's a ____________) are found to be quite helpful.

VII. For second language classrooms, providing comprehensible input - input language in which the focus is on the message and not the form - is the crucial and necessary ingredient. For use of optimal monitoring process 'easy' rules can be taught and 'hard' rules may serve a 'language appreciation' function for most students.

VIII. Simple codes as classroom inputs (teacher -talk) are both useful and essential. Simple codes are inputs that the acquirer understands and are not deliberately grammatically sequenced or controlled. Rather the speaker is only concerned with whether the listener understands

the message. The 'natural' 'net' of grammatical structures that such simple codes provide is an excellent natural syllabus, presenting a sufficient quantity of those structures the acquirer is 'ready' to acquire and allowing for built in review.

Implications: "The best language lessons may be those in which real communication takes place in which an acquirer understands what the speaker (or the lesson) is trying to convey. A reading passage is appropriate for a student if he understands the message. The teacher-talk that goes with the exercise may be for more valuable that the exercise itself.

Language teaching is best when it is used for what it is designed for : Communication.

Finally, a word about 'Indian English' - It is gradually coming to be accepted as a code in its own right and as having a form or structure of its own. In view of the emphasis on communicative function of language. Language teachers have to consider this emerging view of the use and teaching of English in India.

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MODELS OF TEACHING

Prof.S.N.Sharma

A Theory of Teaching:

We believe that teaching is something one does, not something one studies and as such we are not having a systematic conception of teaching. But we need a general conception of teaching for organising our present knowledge about teaching, proposing resource which will advance our knowledge and guide our teaching practice.

A theory of teaching should answer three questions (Gage, 1963). How do teachers behave, why do they behave as they do, and what are the effects ? It should be a general concept which should apply to all teachers, to all students, to all subjects matter and to all situations both in and out of school, in which teaching may occur. It should consider the behaviour of teachers, the cause and the learning of students, the effect (Gage, 1964). Further, it should explain, predict and control the ways in which the behaviour of the teacher affects the learning of the students. We do not presently have theories of teaching which embody these characteristics.

Teaching defined:

1. Teaching is a system of action intended to produce learning (Smith).

2. Clarke defines teaching as activities that are designed and performed to produce change in student behaviour.
3. Gage says that teaching should be ~~viewed as exercise~~ of psychological forces - conditioning (affective), modelling non-logical structure through imitation and cognitive forces (concept, principles and relationships).
4. Teaching is regarding as a dynamic self-correcting, continually re-directed, influenced and influencing interactive process (Strasser).
5. Teaching is an activity with four phases : a curriculum planning phase, an instruction phase, a measuring phase and an evaluating phase. - Hough and Duncun.
6. Teaching is a reciprocal contact between the teacher and the students.

Thus we find that teaching is a complex behaviour and requires planning, evaluation - (formative and summative) and control.

Models of Teaching

1. Lecture-Recitation Model

It is the traditional style of teaching which is found in every school. Historically it is best illustrated by the Jesuit Schools which flourished from the 15th to the 19th centuries and which are models of classical, humanist education. Broudy (1963) describes the Jesuits as "masters of method"

with a genius for organising materials, methods and teachers into uniformly effective instructional systems. It was largely a product of Renaissance, a period of intense revival of interest in the literature of the Greeks and Romans. The instructional goals were high degree in speaking, writing, reasoning and criticising. The teachers studied the assignment in front of the class, and the student was expected to repeat as precisely as possible. Some times there was debate between two students. The work of the whole week was reviewed by the students.

2. <u>The Montessori Method</u>:

The work of Maria Montessori influenced the development of the British Primary Schools and later elsewhere in the world including India. The Montessori method emphasized the importance of liberty, the freedom of both child and teacher to observe and experiment. Her method stresses objectivity and observation (Red & Blue objects for example).

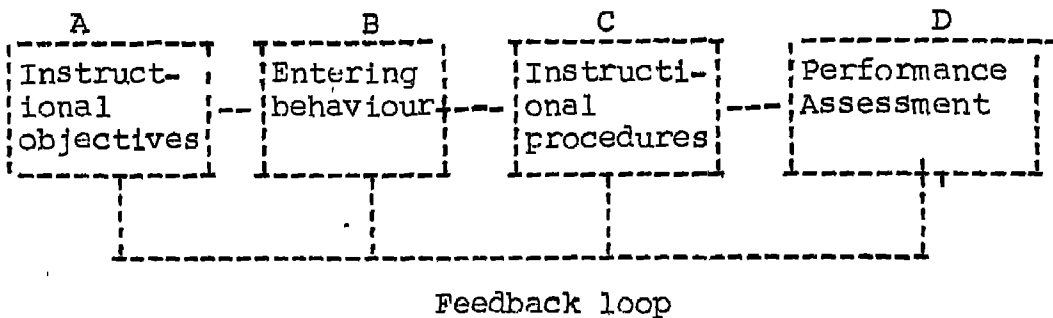
3. <u>Human Relations Model</u>:

It lays stress on individual styles of communication, including physical gesture, facial expression, bodily posture, and use of words. The goals emphasize seeing yourself as others see you. This also aims at training in life adjustment. This model was in use in the U.S.A. in the late 1940s and early 1950s.

Psychological Teaching Models:

1. A Basic Teaching Model

Robert Glaser has developed the following Teaching Model:

Feedback loop

In this model teaching process has been divided into four components - preparing instructional objectives, ascertaining entering behaviour, instructional procedure and performance assessment (construction and use of tests).

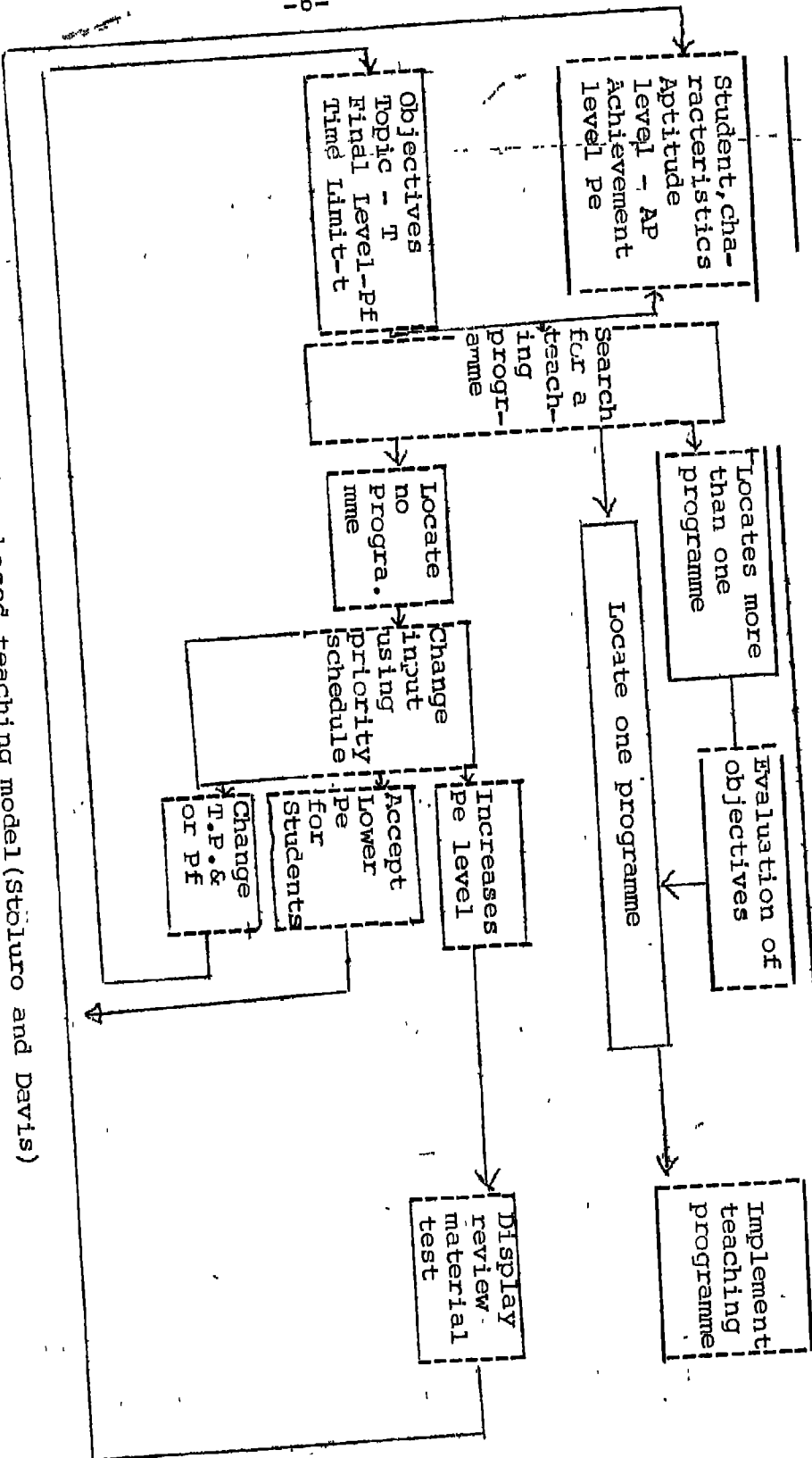
Instructional objectives means what the students should attain after completion of a segment of instruction. Entering behaviour describes the student's level before instruction begins. Instructional procedure includes language, teaching skills, concepts, principles and problem solving. Performance assessment consists of tests and observations used to determine how well the student has achieved the instructional objectives. The feedback loops show how the information provided by performance assessment feedback to each component.

2. <u>A computer-based Teaching Model:</u>

A complex teaching model has been developed by Stolurow and Davis (1965). In this model the computer replaces the teacher in making decisions and providing actual instruction. For instructional objectives (a) final level of performance, P_f, (b) to be achieved in a given topic or subject matter, T, and (3) within a given a given time, t must be considered For entering behaviour students achievement level, P_e and his Aptitude level A_p or set of skill are to be considered.

Now search for programme of instruction begins. More than one, one or no programme may be located. When no programme is located the computer changes entering behaviour or objectives. The figure suggests three such changes: Raise entering behaviour by a review exercise (Increase P_e level); accept high aptitude students, whose entering behaviour is above the minimum; give more time for practice (increase t), change the topic (T) or raise or lower the level of final performance (P_f).

Tutorial phase consists of two functions. The teacher function puts to selected programme to work. The professor function decides which changes to make in the programme to make it more effective.

Thus the pretutorial phase includes the first three components of the basic model; instruction objectives, entering behaviour and instructional procedures.

Computer-based teaching model (Stoluro and Davis)

Teacher Talk:

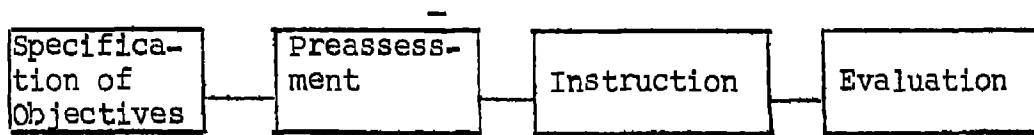
Indirect influence - 1.Accepts feelings, 2.Praises of encourages, 3. accepts ideas, 4. asks questions.

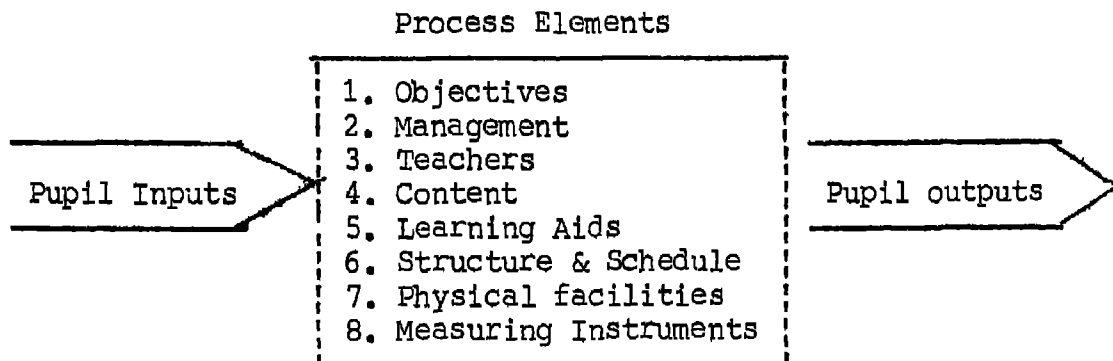
Direct Inference:5. Lecture, 6.gives direction, 7.criticism or justifies authority:

Student Talk

8. Response
9. Initiative
10. Silence or confusion

4.Goal-referenced model of Teacher:

This has been developed by Popham and Baker and is very much like the basic model seen earlier.

5.Systemic Model of Teaching

This has been developed by Coombs. It has three phases as below:

MODELS OF TEACHING

Dr.S.P.Bhattacharya

Teaching

1. Teaching is a complex activity carried on in the complex situation of the school by complex organisms,- human beings (teachers) directed towards more complex organisms (students), who are constantly undergoing complex changes.

2. Various Definitions

   a) "Teach: impart knowledge,or skill; give instruction or lesson; instil, inspire with"

   (Little Oxford Dictionary)

   b) ".........teaching is a system of actions involving an agent, a situation, an end-in-view and two sets of factors in the situation - one set over which the agent has no control (for example, size of classroom and physical characteristics of pupils) and one set which the agent can modify with respect to the end-in-view (for example, assignments and ways of asking question)

   (Smith,B.O.,1963)

c) "Teaching is the arrangement of contingencies of re-inforcement under which students learn. They learn without teaching in their natural environments, but teachers arrange special contingencies which expedite learning.

d) "By teaching, we mean,.......... any interpersonal influence aimed at changing the ways in which other persons can or will behave. The restriction to "interpersonal influence is intended to rule out physical (e.g. mechanical), physiological, or economic ways of influencing anothers behaviour, such as, pushing him, drugging him or depriving him of a job. Rather the influence has to impinge on the other person through his perceptual and cognitive process i.e. through his ways of getting meaning out of objects and events that his sense make him aware of."

(Gage, N.L., 1963)

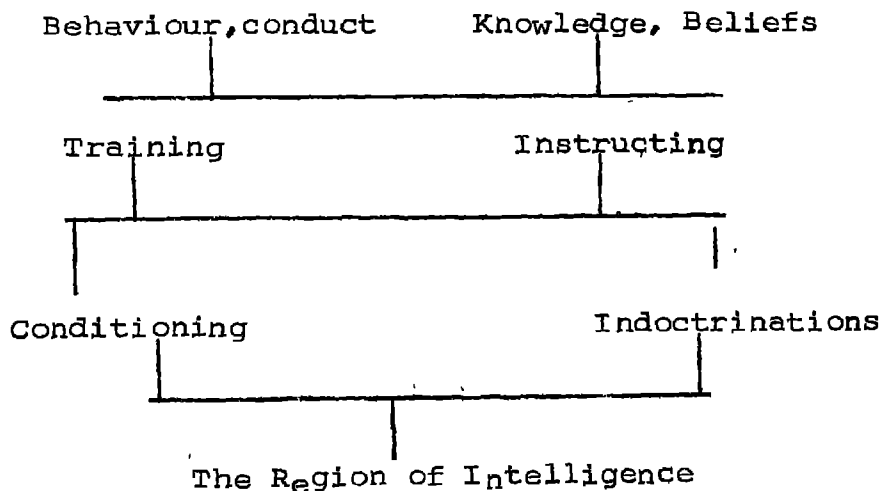
All in all, these definitions may be classified broadly in three types as mentioned by Mitra (1970):

(i) It is imparting knowledge or skill.

(ii) It is doing anything and everything that may lead to learning.

(iii) It is a social act of influence.

3. Topology of Teaching

Green (1964) provided a topology of the teaching. His continum gives a concept of teaching which is open-textured i.e. not perfectly bound by rules. His continuum of teaching indicates four distinct stages: Conditioning, Training, Instructing and Indocrinating. The distinction between the four concepts is not clear and precise and each blends imperceptibly into its neighbours like the colours in a rainbow. The difference between (training, conditioning) and (instructing, indoctrinating) is somewhat of a kind but between training and conditioning or instructing and indoctrining is of degree.

(Fig. 3. The Teaching continuum of Green)

4. <u>The Nature of a Theory of Teaching</u>

Bruner (1966) prepared some valuable notes on a theory of Instruction. "A theory of instruction is prescriptive in the sense that it sets for the rules conserving the most effective way of achieving knowledge or skill. By the same taken, it provides a yardstick for criticizing or evaluating any particular way of teaching or learning". "A theory of instruction is a normative theory. It sets up criteria and states the condition for meeting them. The criteria must have a high degree of generality".

Bruner (1968) proposed that there are four aspects of such a theory. First, a theory of instruction should concern itself with the factors that pre-dispose a child to learn effectively. These factors relate to his earliest childhood and these proceed the child's entry into our scholastic care. The second aspect of the theory of instruction is that it should concern itself with the optimal structuring of knowledge. By this he means that for any body of knowledge there is a minimal set of propositions, or statements, or images from which one can best generate the rest of what exists within that field. For example, from the conservation theorems plus a little more, a great deal of

physics can be re-constructed. A third aspect of a theory of instruction deal with the optimal sequence that is required for learning..... In what order do we present things ? ...... What exercises do you give the child to strengthen the views of his own thinking ? What type of representation do you use ? How much particular ? How much generality ? Finally a fourth aspect of a theory of instruction should concern itself with the nature and pacing of rewards and punishments and successes and failures. To sum up then, a theory of instruction should be constructed around four problems: pre-dispositions, structures sequences and consequences.

In this context Smith's (1965) specification of the contents of a theory of teaching may be quoted "A theory of teaching will consists in (a) statement of the variables comprising teaching behaviour; (b) a formulation of the possible relations among these variables: and (c) hypotheses about the relations between the variables comprising teaching behaviour and the variables descriptive of the psychological and social conditions within which teaching behaviour occurs". In conclusion, it may be said that the theory of teaching should consists of general principles which have been derived

from the experiences of teachers observations of the classroom as well as from experimental evidence and reason.

5. Selected Models of Teaching

1. Glaser : Basic Model of Teaching.
2. Carroll : Model of School Learning.
3. Ausubel : Advance Organizer Model.
4. Biddle : 7 - Variable Model
5. Bruner : Concept Attainment Model
6. Flanders : Inter-action Analysis Model
7. Suchman : Inquiry Training Model
8. Rosenshine : Direct Instruction Model.
9. Mitra : Psychological Model of Teaching.
10. Arther & Bolster: Ethnographic Model of Teaching.
11. Stolurow : Cybernatic Model of Teaching

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BLOOM, AUSUBEL, GAGNE - A Critique

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Dr.S.P.Anand

1. Bloom

Bloom has come to be known for his concept of Mastery Learning. His is actually an instructional plan. In pedagogy, following Bloom's teaching strategy, what is taught in the class is ensured of its learning very satisfactorily by all the students.

Bloom feels that teachers in general behold altogether a pessimistic outlook that these are only 1/3rd of students who can demonstrate adequate learning, another 1/3rd of students fail or just 'get by' while the rest of them fall somewhere in between these two mentioned categories of students. In this scheme of things, Bloom envisages a teaching-learning plan which visualises that 95% of the instructional contents can be mastered (learnt perfectly well) by as much as 95% of the students taught.

Briefly stated, concept of Mastery Learning aims at practising teaching of that quality which achieves learning by maximum number of students at its maximal level. Teaching in this style of thinking is never the least a wasteful investment (input) but yields an optimum production (output) in the form of most desirable learning on the part of learners.

1.1 Fundamental tenets of Mastery Learning

Bloom's instructional plan of Mastery Learning stands upon the following tenets:

I. To facilitate all students to learn, a step by step effective teaching for each unit of learning needs to be followed by teachers. Teachers' teaching should be based upon students' achievement-oriented learning. Each subsequent phase of teachers' teaching should follow the preceding phase of students' thorough and precise learning. Teaching should help the students have the mastery over the current phase of learning. Bloom propounds that learners should not be expected and made to learn the second step in the process of learning till the first step has been learnt by them which may be affixed to the extent of 85% to 95% of its contents.

II. As a matter of fact, learners are accepted for their inter-intra individual differences in their respective personality profiles. In the gamut of these individual differences, learners should also be respected for the different rates of their learning or the varied amounts of time required by them to learn the same piece of learning material. In the concept of Mastery Learning, all learners are presumed to be

capable of learning equally well provided they are allowed to learn step by step and are given the time they need for learning each sub-unit of learning leading to their learning of the total unit of learning.

III. Learners learn well if they are taught well by the teachers. What is taught and how it is taught by the teachers matter a lot in the capability of learners to learn. Students should not be unnecessarily wholly held responsible for their failure to learn at the expected mastery level of learning, but it should also be accepted by teachers as a result of their somewhat faulty or an ineffective teaching.

IV. The ratio in the rates of learning of students may be 1 to 5 and this can be reduced to 1 to 3 atleast by teachers by developing and practising innovative strategies in their teaching.

1.2 Instructional strategies

I. Bloom maintains that life is a game of learning. Children in schools should be essentially guided to learn everything successfully. They should develop self-confidence in their ability to learn. Faltering on the part of learners to learn should not be entirely left merely as a consequence of their inability to learn, rather, Bloom exhorts on teachers

to examine themselves for their own competency to enable the students to learn at the mastery level of learning. It is the teachers' mastery over the contents as well as their efficient styles of teaching that the students' success in attaining mastery over their learning very much depends upon.

II. For its effective teaching and learning by students at its mastery level, a unit of teaching is broken into viable sub-units. Teachers' completion of sub-unit is followed by the evaluation (known as formative evaluation) of students for their learning. It is an essential element in the Instructional Plan of Mastery Learning. The results of this evaluation awakens the teachers and taughts both about the extent of successful teaching-learning having taken place. In the light of this feedback, teachers have a close scrutiny of their style of teaching. They redesign their mode of teaching and motivate the students still further to learn the unlearnt segment of the learning unit.

III. Another session of formative evaluation is followed by remedial teaching, individualised teaching and still better and fascinating teaching on the part of teachers to enable all students learn at the accepted mastery level of learning. Teachers' firm faith in the

ability of students to learn remains unshaken. They make repeated and revised attempts to enable nonmasters to become masters of learning of each and every step of their teaching. After having taught step by step successfully, teachers conduct summarive evaluation of students to ensure themselves that all students have learnt the complete unit at its prefixed mastery level of learning. This is the crux of the concept of Mastery Learning.

IV. While learning students must get reinforced and reassured of their capability of learning. In this style of cognitive learning, affective learning becomes the natural outcome of it. In schools, the children get the feelings of their capability to learn which never remains confined to only their lesson learning but it decidedly goes beyond that. It ensures them of their ability for learning the art of living a successful life. It builds up their mental health to enable them live a life of personal satisfaction and social contribution.

In the playful childhood days of children, the school must not provide experiences anyway devoid of reassuring them of their ability to achieve something in life. Time spent in schools torn of successful-pleasant moments, eventually goes to

perpetuate negative self-concept amongst the affected children. Bloom, very vehementaly advocates that this tendency has to be curbed tooth and nail. In schools, teachingshould be very systematically designed and meticulously practised for the mastery level learning of all students irrespective of their respective rates (speed) of learning.

Bloom's instructional plan of Mastery Learning is based upon the fundamental objectives achieving a purposeful teaching. Teaching must result inlearning. Teaching is meaningful only when it concludes in meaningful learning i.e., mastery level of learning on the part of all students without any exception whatsoever.

1.3 Limitations and constraints

Teaching for mastery learning is not altogether free from in-built limitations and constraints. Teacher-pupil ratio is required to be as small as possible which should remain within 1 to 10 at the maximum. Teachers should be given a good amount of freedom to practise teaching strategies at their own initiatives and work out their effective styles of teaching. All the more, in a heterogeneous; mental, emotional and social complexion of classes, it may not be always possible to wait for and watch each student very

patiently to master the topic before the teacher should go ahead to the next topic of teaching in the class.

Limitations and constraints of the instructional plan of Mastery Learning should not be viewed as the restrictions upon its effective implementation. These should be seen as the essential pre-conditions for its successful working. In a way, limitations and constraints as mentioned above should be accepted as caution points for taking full advantage of the concept of Mastery Learning.

Bloom has set afloat a valuable message that whatever they teach, teachers' teaching must facilitate all students to learn at its masterly level. Teachers' failure to build up the confidence of students to learn well hurts their psyche with subtle unhealthy impact on their personality development as a whole. It has to be taken very seriously in an effective system of education. Students allowed to have bitter experiences of failure in schools, turn out be mentally sick citizens of the society. Bloom suggests the instructional plan of Mastery Learning which ensures the provision of encouraging, joyful and successful experiences to the learners in the learning of courses of studies in the schools. Bloom visualises an inspiring impressions of these happy learning experiences on the development of

healthy mental health of all the children irrespective of their individual differences of a very wide variety.

2. Ausubel

Ausubel is known for his theory of meaningful verbal learning. This theory deals with all the three essential components of the process of education i.e., learning, teaching and curriculum. Ausubel dwells upon learning as to how the learner's mind works to process information to affect learning. In teaching, Ausubel has propounded Advance Organiser Model of teaching. In the realm of curriculum, Ausubel conceptualises unique entity of each and every discipline of knowledge included in the curriculum.

2.1 Curriculum

Ausubel maintains that each discipline of knowledge has its own unique organization of concepts that secures it an identity in the family of academic disciplines. It is in this background, Ausubel does not believe in the integration of various subjects in the curriculum. In the courses of studies, he is an ardent advocate for the recognition of each subject as an independent discipline of knowledge of its own level.

Ausubel believes that a discipline of knowledge consists of a composition of hierarchically organised concepts. This formation of concepts begins with perceptual data at the bottom and proceed through increasing levels of abstraction until the most abstract concept appears at the top. It brings out a pyrimidical or conical set of composition of concepts. Such like structure of concepts of an academic discipline forms the basis of its information processing system.

2.2 Learning

Ausubel describes the human nervous system as an information processing and a storage system which may be analogised to the conceptual structure of an academic discipline. The information processing system of the human beings is a set of ideas i.e., cognitive structure which provides anchors for new information. This is a system which serves as a storehouse of the fund of information with an individual. The nervous system of an individual is also a receiving house for new information from the environment. It remains in a state of perpetual change while accomodating new ideas into the existing ideas.

In the meaningful learning, with his already learnt information, the learner interacts with the new set of learning. He relates his previously assimilated

fund of knowledge with the new knowledge he happens to interact with. The new learning does in no way merely diffuses itself with the existing learning but it actually stabalises itself with the already available structured organization of learning in the nervous system of the learner. The discrepency in the new and old learning works against the concept of meaningful learning. It is believed that when existing fund of knowledge i.e., cognitive structure of the learner fails to establish effective linkages with the new set of learning, virtually no meaningful learning takes place. That means learning to be meaningful is to be perceived as a continuous process of learning to be built upon learning over learning.

Briefly stated, according to Ausubel, in the process of learning, the learner establishes effective linkages with new set of ideas, accomodates and stabalises itself with the previous fund of knowledge and reorganises his cognitive structure withinhis nervous system.

2.3 Teaching

In teaching, Ausubel has given an Advance Organizer Model of teaching. In this model, to facilitate both stability and meaning, one needs to create ideational linkages between students' own cognitive

structure and that of pyrimidical structure of the discipline of knowledge to be taught. In order to accomplish this, Ausubel suggests two principles which govern the working of Advance Organizer Model of teaching. These principles are known as principles of progressive differentiation and integrative reconciliation.

Progressive differentiation means that the most general ideas of discipline are presented first followed by a general increase in detail and specificity. Instead of beginning with the presentation of facts and helping the learners to build up the ideas of discipline and move progressively to higher levels of abstraction, Ausubel suggests that we begin with the most abstract ideas first so that they can include any material which is to follow. Then one would move slightly down the scale to somewhat less abstract ideas which are included at the higher level and so on until the 'bottom' of the discipline has reached.

The principle of integrative reconciliation simply means that new ideas should be consciously reconciled with and integrated with previously learnt content. In other words, each phase of learning paves the way for further learning.

Ausubel does not believe in inquiry-orientation strategies in teaching. He thinks that too much use of these strategies render the teaching-learning process inefficient. It may involve many false steps. He believes in teachers' major responsibility for students' learning. He advocates the organization of 'reception learning' i.e. the situation where the learner is the receiver of information and ideas. He argues in favour of reception learning as the basis of meaningful verbal learning.

In Ausubel's scheme of things, teacher is the monitor of the entire process of teaching-learning situations.

Ausubel's primary concern is to help teachers to convey to students large amounts of information very effectively. He believes that the acquisition of information is a valid and that indeed is an essential goal of schooling.

2.4 Retrospect

Ausubel's theory of meaningful verbal learning applies to situations where the teacher plays the role of a lecturer or of an explainer. Its major purpose is to help students acquire subject matter. The teacher is responsible for presenting precisely what is to be learnt by the students. The learners' primary role is

to master ideas and information. Whereas inductive approaches lead the students to discover or rediscover concepts, Ausubel's Advance Organizer Model of teaching directly provides concepts and principles to students.

3. Gagne

Gagne's conceptual model is an information processing theory of learning. In this theory, man's learning processes are taken to be the operation of a computer.

Gagne emphasises the role of instrumental conditioning in learning and gives classical conditioning only a minimal importance. For him, instructional conditioning as it occurs in schools, is largely a matter of information processing which is a complex of processes that takes place in a learner's central nervous system. Within these processes, 'Learning as a total process begins with a phase of apprehending the stimulus situation, proceeds to the stage of acquisition, then to storage and finally to retrieval'.

3.1 Learning hierachy

Gagne's pivotal idea is that learning is the development of a capability. Each developed capability serves as a subordinate capability to the development of a new capability. Gagne calls such a progression of learning as a learning hierachy.

For Gagne, 'Learning is a change in human disposition or capability which can be retained and which is not simply ascribable to the process of growth'. Learning is something that takes place inside the individual's head - in his brain. Learning is called a process because it is formally comparable to other organic processes such as digestion and respiration.'

3.2 Capabilities as the outcome of learning

Gagne visualises Verbal information, Intellectual skills, Cognitive strategies, Attitudes and the development of Motor skills as the five major categories of human capabilities as the outcome of learning.

Verbal information consists of a student's merely stating the desired information. Intellectual skills involve the students' knowledge as to how to perform an act intelligently in the given conditions. Cognitive strategies are a special kind of intellectual skills that pertain to the behaviour of a learner, regardless of what he is studying. These are the internally organised capabilities that a learner employes in guiding the process of attending, learning, remembering and thinking. Attitudes refer to the internal states of organisms that influence their actions towards certain classes of things, persons or events. Motor

skills are employed by persons in activities such as driving a car or playing a musical instrument.

It may be said that Gagne sees the development of capability/capabilities inthe learner to affect his performance-efficiency as a consequence of the process of learning that takes place in his nervous system. Gagne also equates the performance change itself with learning.

3.3 Eight phases of an act of learning

Gagne visualises eight phases as a chain of external and internal events that constitute a single learning act. In order of their occurance, these phases are enlisted as: motivation, apprehension, acquisition, retention, recall, generalisation, performance and feedback. Each phase has its respective internal process as well as external events that influence it.

Motivation for learning is an incentive. It involves some goal to be achieved in the process of education. Motivation may be an intrinsic desire (intrinsic motivation)of the learner to master his environment. This is learning for learning sake. It speaks for the intrinsic interest of the learner for learning. The external motivation is expectancy motivation. It may be created as an expectancy in anticipation of the 'reward' to be achieved for learning. Motivation phase of

learning involves learners' readiness and preparedness to get into an act of learning. That way, motivation deals with the state of mind with which the learner comes to learn.

The apprehending phase of learning consists of learner's actual involvement in learning. He begins attending to the stimulus situation of learning and becomes occupied with distinguishing it from the network of his surroundings. In this phase of learning, the learner perceives and identifies the learning situation distinctly.

In acquisition phase of learning, learning activity takes place. This is the phase of incidence of learning. 'There is a transformation of the perceived entity into a form which is most readily storable'. The learner codes the content of learning to store it in his nervous system which may be accomplished for either short-term or long-term memory. The success of acquisition phase of learning is determined by the retention of learning in the form of storage of memories in the nervous system.

Retention is the sustention of learning in the safe custody of the nervous system of the learner. Recall follows retention. It is the retrieval of learnt information from the central nervous system. Recall is the

phase of learning, when the learner puts his previous learning at alert for its action to stretch further its scope of learning. When an individual is called upon to display or to employ some learning, he must retrieve an entity that has been acquired and stored. 'Somehow, the memory store is serached and the learned entity retrieved.

Generalization involves transfer of learning. It consists in the application of recalled entity in the learning of another alike or like discipline of knowledge. In that way, transfer of learning may be vertical and lateral. Learning is said to have taken place when it affects the performance of the learner. Learning must reflect itself in the learner's behaviour-performance.

Feedback is the last phase of learning. It occurs through reinforcement. For the completion of an act of learning, it requires either an automatic or contrived feedback. Feedback is automatic when it is provided by the performance itself. This type of feedback is derived by the learner from his performance itself. However, when the feedback is provided by someone else to the learner, it is known as contrived feedback.

In the concept of Gagne, from motivation to feedback, in its eight phases, the cycle of an act of learning is completed.

3.4 Eight conditions/types of learning

Gagne has put forward eight types of learning which are also known as eight conditions of learning. These are enunciated as: signal learning, stimulus-response learning, chaining, verbal association, discrimination learning, concept learning, rule learning and problem solving.

Signal learning involves classical conditioning in the incident of learning. It is stimulus substitution where the learning is conditioned to respond to a signal even in the absence of actual stimulus. Pavlov and Watson experiments stand testimony to this type of learning.

Stimulus response learning in contrast to classical conditioning involves instrumental conditioning of Thorndike. It is a process of response modification when the learner acquires a precise response to a discsriminated stimulus.

Chaining may be either motor or verbal association. 'By chaining is meant the connection of a set of individual S_c - R_s in a sequence'. Verbal association is the

learning of a verbal chains. Discsrimination learning involves learner's ability to make a different identifying responses to different stimuli however they look like the same ones. Learning becomes increasingly differentiated inthe sense that individual stimuli and responses become more readily distinguishable from another. The individual becomes capable of making different responses to stimuli that are somewhat alike but still different, they are :

Concept learning is one's making a common response to a class of stimuli. In concept learning, learner becomes able to respond in a single way to a collection of objects as a class and this helps the learner to respond adequately other than the objects originally present. In that way, concept learning depends upon and facilitates discrimination learning.

A rule is a superconcept. Rule learning is the formation of a chain of two or more concepts in the form of a built-in type of behaviour that accrues to a class of stimulus situation with a class of performances.

Gagne's problem solving is a natural extension of rule learning in which the most important part of the process takes place withinthe learner. The learner learns to combine two or more than two rules to solve the given problematic situation. In combining the rules,

an individual develops a new capability to confront the given novel situation around him.

Eight types of learning as propounded by Gagne, are essentially eight features of learning as a whole and it is for this reason these are also known as eight conditions of learning. Eight conditions in their illustration further substantiates the concept of learning 'hierchy learning' as enunciated by Gagne.

3.5 Gagne and teaching

A teacher, according to Gagne is a designer and manager of instructions. He is also an evaluator of students' learning. As such, learning of students revolves around teachers' teaching them.

To Gagne, a process of instructions means, on the part of teachers, creation or development of proper conditions of learning that are external to the learners. These proper external conditions include the teachers' communication with students about informing them the target of learning i.e., what they are expected to learn, informing them of what they already know, directing their attention and actions as well as guiding them to think along certain specific lines.

To influence the process of learning, a teacher works on stimulation of recall of previously learnt capabilities, direct presentation of appropriate stimuli, the activation of desired mental sets of learners and the provision of feedback. These are known as four most general components of instructions at the command of teachers.

Gagne's concept of teaching-learning leads to the development of capabilities in the learners. In this information processing theory of learning, Gagne visualises behaviour modification of learners in the process of education.

4. A Critique

In their scheme of things, Bloom, Ausubel and Gagne stand for mastery learning, meaningful verbal learning and learning hierachy respectively. A simultaneous study of these authors reveals an interesting analysis. Their views are, in conclusion, hardly found to be contrary to each other. Rather, Bloom, Ausubel and Gagne in their fundamental points of assetions, they substantiate to each other's points of view. We can very rationally make a very close synthesis of their salient features of emphasis.

Ausubel's concept of meaningful verbal learning lays stress upon learning to be made meaningful to the learner. And, learning becomes meaningful to the individual learner when he is able to relate his previous learning with the new set of learning. Formalised by Ausubel as cognitive structure i.e., the organisation of previous learning of the learner should be able to establish meaningful and effective linkages with his new set of information he is expected to learn. In this context, Bloom may be taken as an author who in the concept of his mastery learning, has propounded a meaningful teaching strategy viz. an instructional plan for the achievement of meaningful learning. The concept of mastery learning, inherently carries the real message of meaningful learning as advocated by Ausubel. In mastery learning, the learner is facilitated and allowed the time to learn a unit or sub-unit of learning before that he may be expected to learn the subsequent unit or sub-unit as the case may be. In meaningful learning, we talk about making effective linkages with old and new sets of learning and in mastery learning, we build up each subsequent step of learning over the previously learnt step. Mastery learning in that sense is meaningful learning and vice versa. At the most, it may be said that Bloom's

gives us a meaningful teaching strategy for pursuing Ausubel's meaningful verbal learning.

Gagne, in his concept of learning hierachy, has illustrated the pivotal points of Bloom and Ausubel, both. In his terminology, the development of a capbility is the outcome of a learning unit i.e, set of learning and for this learning, subordinate capabilities i.e. the previously learnt or developed capabilities are essentially to be motivated and activated. It forms a progression of learning which Gagne has termed as learning hierachy. Very precisely, Gagne agrees with Bloom and Ausubel that learning is a sequential process. Each set of new learning is desired to be made a purposeful learning. For this, it has to be associated and inter-related with the previous fund of knowledge of the learner which may be called a subordinate capability (Gagne) or mastery learning (Bloom). In this context, Bigge (1976,p.180) quotes Gagne saying that, 'a teacher in dealing with students should make sure that relevant lower order skills are mastered before the leanning of related higher order skill is undertaken.....
First find out what the student already knows, second, begin instruction at that point. Joyce Bruce and Marsha Weil (1985,p.76) quotes Ausubel as, 'In contrast to

those who advocate discovery method of teaching, open education' and experience-based learning, 'Ausubel stands unabashedly for the mastery of academic material'.

Ausubel in his Advance Organizer Model of teaching has illustrated the principles of progressive differentiation and integrative reconciliation. He has also made mention of a unique pyrimidical structure of each discipline of knowledge and he is quite averse to the integration of various subjects in the curriculum. Gagne does not seem to be much interested in the inherent structural nature of a discipline of knowledge and the same seems to be true for Bloom, too. Gagne explains the process of learning in its eight phases. He, as well as, has conceptualised eight types of learning, also. Ausubel and Bloom are absolutely silent over these sketchy explainations. Gagne also states the development of capabilities in the process of learning which improves upon the performance-efficiency of the learner. In that, Gagne is more comprehensive than Ausubel and Bloom, both. But still, it is difficult to pin-point the points of differences which may be attributed to these authors. Even when, Ausubel emphasises that we should teach by presenting the whole concept to begin with from the top concept to the lower bottom concept and not the vice versa, it does not isolate him from his like-mided company of

Bloom and Gagne. While illustrating the Advance Organizer Model of teaching, in the enunciation of the principles of progressive differentiation and integrative reconciliation, Ausubel has put forward a convincing rational for this approach.

Ausubel, Gagne and Bloom are found to be at the same wave length as far as their views on the process of teaching are concerned. They need be understood in their right perspective. Bloom's concept of mastery learning seems to have emerged out of his concern for the teachers' apathy towards students' failure to learn. He came forward with an instructional plan which ensures the achievement-capability of students to learn whatever they are very properly taught. Ausubel's theory of meaningful verbal learning came into the limelight, perhaps when the author feared unpleasant results of too much laying stress upon self-learning i.e. discovery learning on the part of students themselves. Gagne's conceptual thought is based upon the development of capabilities as a consequence of learning. In the realm of theoretical discussions; Bloom, Gagne and Ausubel deserve a prominent place for their thinking on the process of education.

In practical implications, it may be said that Bloom, Ausubel and Gagne highlight the important role to be played by teachers in the learning of students. To begin with, the teacher must visualise that what the

students already know especially inthe content of proposed new set of learning. Working of the instructional plan of mastery learning, meaningful verbal learning and learning hierachy have the same starting point.

In the second step, students should be facilitated to recall, recapitulate and remember their previous learning and get themselves motivated (prepared) for the new set of learning. At the very take off stage of learning by the learners, they need be made intrinsically interested in their learning.

Thirdly, teachers are required to design their teaching very meticulously. Teachers can't get the students motivated to learn until and unless they themselves are duly motivated to teach them. They have to establish effective linkages between students' earlier learning and proposed learning of the day. To help the students to accomodate new learning and stabalise it with previously acquired learning very meaningfully, teachers are expected to practise effective style of teaching. Teachers for a purposeful teaching can't take teaching very casually. They have to be altogether very serious in their teaching as and when they teach for achieving the very purpose of teaching the children.

Fourthly, evaluation of students' learning on the part of teachers should provide feedback to both the teachers and taughts alike. From the feedback results, rather than finding faults in and blaming the students for their not learning well what is taught to them, better teachers should give a second thought to their teaching-strategies and improve upon their teaching styles. However, evaluation results should also keep the students aware of their levels of achievements and keep themselves abreast of what is still needed to be done on their part for meaningful learning, learning at mastery level and for acquisition of hierachy of learning.

Briefly stated, the desc ription of eight phases of an act of learning can serve as a good guide to teachers to guide the students for their meaningful learning to the expected mastery levels of learning.

Teachers should introduce a variety in their designs of teaching. A teacher himself should be the best judge to adopt a teaching strategy for a given topic of teaching. In this context, Bigge (1976,p.77) writes, 'Ausubel points out the need for many types of learning processes because each promotes different educational objectives. Discovery learning procedures, for example, are useful for some objectives (learning how to discover)

and not others (how to master material). All are necessary and useful in the process of education. Problems arise with each approach, not so much because a particular instructional method is inherently bad but because it is used for wrong purposes'.

In the process of education, visionary thinkers like Bloom, Gage and Ausubel provide sufficient food for thought to the practising teachers. It is for the teachers to read in between the lines what the authors say and examine it for its practical implications. Each author has a message, he has his own convictions, the teachers need to understand their writings in letter and spirit.

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PSYCHOLINGUSTICS : AN OVERVIEW OF THE AREAS

Prof. Ajit Kumar Mohanty,

1. Psycholingustics - Concerned with mental structures and operations that make communication possible. Thus, Psycholingustics is a branch of cognitive psychology.

2. The main questions:

   (A) What does one know when one knows a language ? (Describing the knowledge of language)

   (B) How does one use the knowledge ? (How do we function when we talk, listen, read and write ?)

   (C) How do we acquire the knowledge about language and the ability to use it ?

   (D) How does the knowledge of language(s) affect our mental processes/behaviour ?

3. The characteristics of languages in general (e.g. discreteness, arbitrariness, openness, duality of patterning) and of specific language do affect our communication and cognition.

4. The main task of linguist is to describe the competence of the speaker. The psycholinguist is interested in constructing a theory of linguistic performance. Since our knowledge of language and of linguistic processes is both complex and tacit, understanding of linguistic competence/performance is a difficult task.

5. The linguistic competence: Aspects of the language system - the phonological, the syntactic, and the semantic. The intuition of the native speaker. Chomsky's theory of competence.

6. The Linguistic performance: The interface between competence and performance. I perception and comprehension of speech and language. Speech segmentation (using stress & intonation as insufficient cues) - Lexical access (which takes about 150-200 msecs. depending upon word frequency/recency, fhency and morphological structure) - word relationship and word order - syntax - pragmatics.
Models of comprehension (A) Transformational model. (B) Strategy models.
Memory and representation (e.g. images) in comprehension.

II. Production of speech and language. Conversational maxims (rules or logic of conversation) and other determinants of sentence structure (e.g. pragmatic strategies, planning for explanatory or descriptive speech). The articulation and the psychomotor aspects of speech production.

III. Acquisition of speech, language and metalinguistic skills.

IV. The relationship between language and mental processes Bi/multilingualism.

V. Applications of linguistic skills - Reading, writing.

7. Overlapping concerns of Psycholinguistics:
Neurolinguistics (the brain - language relationship)
Sociolinguistics (the social context of language).

THE BILINGUAL CHILD : AN OVERVIEW

Prof. Ajit Kumar Mohanty

Bilingualism is a fact of life in India with its enormous linguistic diversity. Most of our children grow up in a multilingual environment and by the school age a very large segment of our young population is bilingual or multilingual to some degree. Thus, the models of child behaviour borrowed from dominant monolingual countries of the West are clearly inadequate for the average Indian child who is different partly because she is a minor multilingual.

Who is a bilingual child ? What are her special features ? How is it like growing up in a world of many languages ? How does bilingualism affect psycholinguistic processes ? These and other issues in bilingualism, trends of bilingualism research in India, and possible directions of future research are briefly discussed with the expliat purpose of getting child development researchers interested in the phenomenon of bilingualism.

Definition & Typology

Broadly viewed as the use of two or more languages, the term 'bilingualism' has been defined varbusly by different researchers. The definitions range from emphasis

on maximal competence (nature-like control) in two language to minimal proficiency in a second language with a somewhat middle position represented by the view that bilingualism is the practice of using two languages. Recent views of bilingualism emphasise communicative competence rather than the knowledge of language as such in defining belingualism. There is no absolutedefinition of bilingualism and, depending upon the context of study, a definition can at best seek to provide a clear profile of the bilingual which more of less confirms to core meaning of the bilingual persons or communities as those with an ability to meet the communicative demands of the self and the society in their normal functioning in two or more languages in their interaction with other speakers of any or all of these languages.

A number of descriptive levels or typologies for characterising bilinguals have been used reflecting a wide range of approaches and emphasis. Generally, three broad bases of classification can be discerned. These are based on (a) societal context and pattern of language use, (b) relative levels of skills in language use and (c) context of development of bilingual skills. In terms of societal context individual and societal levels of bilingualism have been distinguisted and societies with clear functional separation between

two languages or codes have been characterised as diglossie. Thus, societal diglossia of different forms may cooccur with individual bilingualism giving rise to a complex system. Bilinguals have been characterised as balanced or dominant depending upon whether the skills in the two languages are relatively equal or unequal. The context of acquisition of bilingual skills have also been characterised as additive in which acquisition of first and second language skills are supportive of each other) or subtractive (in which second language is acquired replacing the first languages). Further, when two languages are acquired in the some societal context in which both are used interchangeably, the resultant bilingualism is a compound one with a single representational mediation process for two language sign systems. In coordinate bilingualism, the two languages are learned under different cultural and environmental conditions with the possibility of two representational systems. The compound - coordinate distinction has been questioned by many researchers. Simultaneous and successive acquisition/learning of the two languages have also been distinguished. There are some of the common typologies, there are many others revealing the complexity and multidimensionality of the phenomenon of bilingualism.

Measurement of Bilingualism

Both observation and reported measures have been used to measure bilingualism. The reported measures include interviews, self-report questionnaires, census report, demographic information sheets. Observation measures include test-based and natural observation. Assessment of bilingual competence is fraught with problems since native-like competence in languages calls for comparing the billingual with native speakers of both.

Measurements of bilingual balance or dominance are based on comparison of speed and efficiency in dealing with stimuli presented in two languages in a variety of tasks such as word association, word completion, translation etc.

Bilingualism of children has to be consideration in testing and assessment of such children since most testing involve use of language.

Psycholinguistic studies on bilingualism

(i) Language production and perception systems are integrated differently among the bilinguals. For them, it appears that a more compound system exists for perception and two coordinate systems exist for production.

(ii) In acquisition of bilingualism, particularly among children, the individual may start with a single system with the dual system of production developing over time. Awareness of learning two languages may be present as early as 3 years of age but effective separation of the two languages does not come about until the age 7. Learning pattern for the second language depends upon the age of acquisition, cognitive style, linguistic distance between the structures of the two languages etc.

(iii) Bilinguals seem to process linguistic stimuli at a level which is not language-specific. The mental lexicon of the two languages of the bilinguals are perhaps more or less compounded, depending upon the age and manner of acquisition. At the production level, there is, according to the Western studies, some prohibition against mixing languages evident from time increament in reading aloud of mixed language test. There is also possibility of an input switch which may prime the language processor(s) to L1 or L2.

(iv) Language awareness and linguistic sensitivity or metalinguistic awareness of bilinguals seem to be better than the momelinguals.

(v) From a neuropsychological point of view, these is evidence for different cerebral lateralization for the two languages of the bilingual which causes difference in neuro-psychological performance in the two languages. Age of second language learning, specific factors and order of learning the languages are some of the factors affecting neuro-psychological characteristics of bilinguals.

(vi) The symptoms and patterns of recovery of bilingual or polyglot aphasics are strikingly different from the monolingual ones.

(vii) Although, studies prior to 1960s were somewhat equivocal, more controlled and methodologically soundstudies after 1960 show that the bilinguals out perform the monolinguals in tasks of (a) intelligence, (b) creativity, (c) flexibility, (d) cognitive and information coding skills, (e) metalinguistic and metacognitive awareness and (f) academic achievement.

Indian studies on Bilingualism

Indian linguistic studies have focused on simultaneous acquisition of bilingualism, polyglot aphasia, code mixing and code switching. The psychological studies have focused on cognitive, academic and social consequences of bilingualism showing bilingaals' superiority over the monolinguals. These findings have been explained in terms of metalinguistic/metacognitive hypothesis.

The multilingual norms in Indian society calls for a different view of the phenomenon of bilingualism which is characteristically different from the western view guided by a dominant monolingual ethos. This gives rise to new conceptual possibilities in Indian studies of

CHILDREN'S ENRICHMENT EXPERIMENT (THROUGH) RADIO"

Dr. Mira Chowdhry,

Introduction

In 1988-89, the National Council of Educational Research and Training (NCERT), in collaboration with the All India Radio (AIR), Department of Women and Child Development and UNICEF, conduded a Radio Feasibility Study in Early Childhood Education at Kota, Rajasthan, for the duration of one year. The major objective of this study was to determine the potential of the radio as tool for providing enriching experiences to under-privileged children. With this objective in mind, A.I.R. Kota was selected for broadcasting the programmes produced by NCERT for a period of one year, from October 1988 to September,1989. The target audience for these programmes were the ICDS anganwadi (AW) children from 100 AWs and children from Classes 1 and 2 of 25 local government schools.

2. The major inputs for intervention were:
   - distribution of 150 radio sets the anganwadis and schools.
   - periodic training of grass root level workers/ teachers and supervisory functionaries in conducting of pre and post broadcast acativities with

children, use of audio medium and monitoring.

- monthly distribution of Guide Books and programme Scheduled to the anganwadis and primary schools.
- daily broadcast, of 15 minutes duration, of programme titled "Khilte Phool", six days in a week, for one year. Each programme was repeated thrice to facilitate listening in young children.
- Systematic monitoring by the supervisory personnel.

3. An empirical evaluation of the study was conducted by NCERT upon completion of the year's broadcast to assess the impact on children's language and cognitive development and on the development of attitude and skills related to play way and acetivity approach in the anganwadi workers (AWWs) and teachers of classes 1 and 2. This evaluation was conducted through an experimental design involving actual testing and observation of children, observation of teachers/AWWs, and through feedback received from monitoryirg proformae and post-broadcast surveys.

4. The results of the evaluation demonstrated a significant impacat on the cognitive and language development of anganwadi children, though the same could not be seen in children of the primary schools. The impact on the attitudes and classroom behaviour

of the AWWs and teachers was also observed to be significant. The potential of radio, as a powerful medium for supplementing and strengthening the limited skills of the AWWs and stimulating the cognitive and language development of under-privileged children, was thus established. A copy of thewrite up on this study is annexed.

5. As a follow up of this study, thethree collaborating department - All India Radio, Department of Women and Child Development and NCERT, at a meetingchaired by Mrs. Meenaxi Anand Chowdhry, Joint Secretary, Department of Women and Child Development on 23.12.1991 at New Delhi, together explored the possibilities of launching broadcast of programmes for AW children along thesame lines in other states also. In view of the availability of two-in-one sets under areas where funding from World Bank and NORAD was possible, the states selected for the collaborative programme in the first phase include Andhra Pradesh, Orissa, Haryana and U.P. It wasdecided that, in view of the urgency and the need expressed by the Department of Women and Child Development, the AIR would endeavour to start the broadcast of the programmes in these states as early as possible, but not later than October, 2nd, 1992.

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CONTINUOUS COMPREHENSIVE EVALUATION - SOME STRATEGIES

Prof.R.C.Das

1. Learning is a change in behaviour. Teaching is guiding the process of learning so that the change in behaviour takes place in the desired direction. Education is a socially organized process in which learning occurs towards socially useful objectives. Objectives indicate the direction in which learning, i.e., change in pupil behaviour, is proposed to take place. Evaluation is the process by which the extent of realisation of educational objectives is determined. Evaluation is often done through paper and pencil tests but in some cases procedures other than tests have to be used.

2. In the present system of education, we have a fixed curriculum for each class which a mixed group of learners is expected to learn and at the end of the session, a comprehensive examination is given to classify the learners into different grades or categories. This system has a bad effect on those who are declared failed or got very low grade.

3. Theoretically it is possible for every child to learn any learning task, only each child takes different amounts of time to learn the same. If learning tasks are suitably graded, it is possible

for every child to learn upto mastery level each of the learning tasks. This process of enabling the child to learn the tasks up mastery level one by one is called mastery learning.

4. Formative Evaluation is used to help children acquire mastery level in each learning task. A course is broken up into smaller units of learning, each of which is learnt through one or two weeks of instruction. At the end of each unit, the learning is evaluated using a diagnostic type of test. Each child is given feedback on the nature of his defects and is allowed some time for re-learning to overcome the defect. In this way formative evaluation is used to achieve mastery learning.

5. In preparing a formative test, first analyse content of the new unit into new terms, facts, relations or procedures explained, defined, illustrated or presented in the new unit. Secondly analyse the same unit in terms student behaviours or learning outcomes related to each new element of content and prepare content behaviour table. In the cognitive domain, Bloom recommends the following levels of behaviour for formative evaluation: knowledge of terms, knowledge of facts, knowledge of rules and

principles, skill inusing processes and procedures, ability to make translations (from one form to another), and ability to make applications. The formative test should include test items in all new elements of content.

6. Summative evaluation differs from formative evaluation in purpose (expected uses), portion of course covered (time) and level of generalization sought by the items in the examination. Summative evaluation is used two or three times in a course, covering a large amount of course content and after achieving greater degree of generalization.

7. In preparing a summative test, analysis have to be made of the content but into broader segments. The objectives are expressed in terms expected student behaviours and weightages are given to the content and behaviour items and a chart is made. A test item is constructed in a particular content segment linked with a particular student behaviour. Bloom's taxonomy may be used for classifying objectives. In the cognitive domain the hiearchy of objectives is: knowledge, comprehension, application, analysis, synthesis and evaluation. Summative test cannot include all items of content;

so a sample of content to represent the weightage given to the parts of the content is taken.

8. Besides the cognitive domain, educational objectives inthe psycho-motor and affective domain need be evaluated. In the psycho-motor domain, very little is done at the secondary schools. If practical skill subjects, such as music, dance, gardening, art, carpentry, work-experience (S.U.P.W.) are taught, then the teacher may analyse expected outcomes in terms of motor skills and evaluate them through practical tests.

9. The affective domain describes changes in interest, attitudes, values, appreciations and adjustment. The evaluation of affective domain is difficult as the expected outcomes are not easily expressed in terms of observable behaviour. It is better to record observed behaviour indicating any interest, attitude or adjustment.

10. It is desirable to maintain a cumulative Record of a students' evaluation from the time of his entry to school until the completion of his school education. This record should contain evaluation of his academic achievement, physical and health data, participation

in games and sports, evaluation of his interests (arts, music, dramatics, literary, scientfic, games, mechanical, social etc.) as expressed in his behaviour or work, and evaluation of his personality. Evaluation of the affective domain may be done using some kind of rating scale. (Some tests of Interest and personality inventories may also be used).

11. The Cumulatife record will be very useful in giving guidance tothe student, educationally and vocationally. The teacher can also identify his weakness in achievement and give him special help to overcome his weakness.

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ANALYSIS, PREDICTION AND CONTROL OF BEHAVIOUR : AN EXEMPLAR APPROACH FOR BEHAVIOUR CHANGE TECHNOLOGY

Prof.Biswanath Roy

The paper reports an experiment conducted by the author on 54 teachers, 1900 students and 20 desirable classroom behaviours of the teachers. The feedback method was used for behaviour change. It was concluded that:

1. Human behaviour in general and teacher behaviour in specific can be changed if proper feedback from the proper group or person, is put for consideration.
2. The feedback from the students observation about their teacher is the most effective method.

The above, however, necessitates knowledge about the self-concepts, values and diagnosing the ailing spots for putting them into situational analysis or cross-sectional analysis of the immediate psychological field in which the individual works, moves, acts as a dynamic unity, a whole person and it is as such that he takes part in social phenomena. Only then, significant changes can be made in the person's behaviour.

Analysis of Behaviour:

Woodworth and Sheehan (1967) had reported that McDougall (1908) was the first to define psychology as the science of behaviour. In facat, he had substituted the word "conduct" by "behaviour". Later, Watson (1914) brought out the first book ever having the word "behaviour" in its title.

Such earlier approaches included both human and animal behaviours for all types of studies. For example, Pavlov (1927) evolved the term "conditioned reflex", Kohler (1925) on the "mentality of apes" etc., helped develop important psychological theories based upon classical experiments with animals like dogs and chimpanzees. Equally famous were Thorndike (1911), Skinner (1938), Lashley (1935) and others, for their experiments with rats and pegions.

A parallel and equally strong line of studies occurred with human beings, specially children and mentally ill persons. Many of the earlier mentioned authors were involved in such works.

The works of James (1870), Freud (1913), Piaget (1926) were entirely based upon studies on human beings. Similar were the works of Binet (1903), Spearman (1923) etc., but with human intelligence.

However, it wasn't till Lewin (1936), who could give a functional formula for origin of behaviour. He had suggested that behaviour (B) could be treated as a function of situation (S), whereas situation (S) could be function of the person (P) and his environment (E). Thus:

$$B = f\ (S)\ \ldots\ldots\ldots\ldots(1)$$

or, $$B = f\ (PE)\ \ldots\ldots\ldots\ldots(2)$$

where, B = Behaviour

S = Situation

P = Person

E = Environment

and, S = PE

It could be concluded that, human behaviour originates from concerned life space as determined by the totally of possible events.

Inclusion of such psychological bases as instincts, emotions,needs, self concepts, values, attitudes etc., started giving interdependent causes as determinants of human behaviour.

However, it was towards the end that Freud (1957) suggested the three-dimensional concept of meta-psychology related to mental dynamics, topography and economy, as the best challenge to the study of human behaviour. This 3-D concept could encompass any menal operation and behavioural exposition.

Roy (1983), had advocated that, in such and other ways, one could think of infinite number of behaviours under infinite number of situations. All such situations would represent the stochastic net work of which behaviour becomes central point of action depending upon the

relative importance of time, space and person. Human behaviour thus, could be set into three categories:

1. Incidental individual behaviour
2. General social behaviour
3. Ultimate universal behaviour

Such classification, as above, however demands situational analysis or cross-sectional analysis of the immediate psychological field where the individual works, moves, acts as a dynamic unity a whole person and it is as such that he takes part in a bigger social phenomenon.

Petrovsky (1985) had observed that the term "behaviour" actually seems to be philosophically neutral. Marxist psychologists preferred to define behaviour as a product of the society as a collective subject of history. It was a departure from the mechanistic interpretation that behaviour was an activity and not reactivity. Human behaviour could be treated as a product of the dialectical materialist doctrine of development and the Leninist theory of reflection. Such a premis was one of the important reasons for puttigg forward a new programme of Soviet psychological theory.

Prediction of Behaviour:

Petrovsky (1985) determined that one can only predict a person's behaviour, if it is based on the stable structure of his personality and their relativeness. The stability

of the personality structure, however, is directly related to the intra-psychic gaps within the individual.

Roy (1983) had stated that, one easy way to predict behaviour is to connect its properties to instincts or propensities (McDougall, 1923) or to symptomatological sequences (Diethelm, 1955). Thus, if there can be an accepted list of instincts or propensities or symptomatological sequences, then it will be quite easy to predict the behaviour.

Properties of behaviour are, however, not invariable but ambiguous, as under a test, a behaviour would show one property or many properties to express itself depending upon the relative frequency of their occurrence making a struggle between the most robust vs the most frequent. Prediction requires determinism with accuracy as against the chaotic picture of probableness.

If under natural situation and at given times a man behaves in similar ways, a homogeneous prediction would be applicable till there is exception. If, however, there will be an exception immediately, then it has to be considered as a part of the total ongoing process and not to be excluded as an exception. Thus, total behaviour would always be functional and a sum-total of natural as well as exceptional behaviour. Thus, there can be a "behaviour table", starting from a probabilistic situation and

a N X N matrix, having a subset of any number of variables, depending upon personal, temporal and spatial modalities. It can be a need-based structure related to situation-behaviour dyad. Roy (1983) has given a detailed discussion on the concept of "behaviour table".

The purpose of prediction of behaviour is two-fold. Firstly, it is aimed to remove the effects of resignation to fatalism and the dilution effect of altruism. Secondly, it is aimed to plant determinism and impose control over prediction. This is no doubt necessary from the futuristic point of view. It is now a fact that, behaviour transplantation is possible but it needs prediction first.

Many a times prediction of behaviour becomes analogous with the concept of expected behaviour. For example, parent's expectation about behaviour of children in home can be:

1. will obey parental instructions
2. will take part in home affairs
3. will maintain home rules
4. will be playful with co-siblings.

Similarity, teacher's expectation about behaviour of children in school can be:

1. will stand up when the teacher enters the class
2. will obey teacher's instructions
3. will take active part in the question-answer situation.

4. will do the home tasks
5. will take class notes
6. will maintain class discipline
7. will stay awake in the class
8. will accept the authority of the teacher.

However, the friend's expectation can be like the following:

1. will participate in club activities.
2. will look after the group norms
3. will maintain group harmony
4. will not hurt the feelings of others
5. will look after social responsibilities.

The question which can be asked here is: Is the child fulfilling the expected behaviours or not ? Predictably, does he really perform them, or not ? A predicted answer can be a congruent answer, and thus, there will be no difference between the expected and predicted behaviour. They will match well with each other. But, in case of failure of the expectations, any prediction becomes erratic. In fact, the "eyes-no" dyad determines the prediction part as either true or false in the forms of either "yes, he will do it" or "no, he will not do it". In case of the prediction, in any way whatsoever, the control of behaviour comes into picture. Thus, a behaviour check-list can lead the researcher toward the soft points for change and control of behaviour in the individual.

Control of Behaviour:

This part can be divided into two parts as behaviour change and behaviour contol.

(a) Behaviour Change. Scientific studies on behaviour, were seeking more or less, information about exemplar behaviours of dogs, rats, chimpanzes, pegions etc. under certain experimental situations. The same was true for studies with children and adult human beings also. It was only later on that, psychologists had wanted to incorporate and practice the idea of behaviour change. They wanted to replace any undesirable existing behaviour by a desirable expected behaviour. In this way the "science of behaviour" took a form for technical application as "technology of behaviour". The methods of behaviour modification, psychoanalysis and such other methods came up simultaneously, although all of them had actually attempted for "behaviour change" only. For example, if all of them are put to the systems approach, the process can be explained as initial behaviour -------tranformation process ---------terminal behaviour --------evaluation------ discrepancy data --------feedback --------recycle ----- to initial behaviour.

Roy (1970), reported about a study of changing teacher behaviour through feedback. The study was conducted in the city of Bikaner in Rajasthan.

The sample consisted of 54 primary school teachers and their 1900 students. The teachers gave their self-ratings on a checklist of 20 desirable teacher behaviours. They were:

1. Enjoys funny remarks by pupils
2. Praises what pupils say in class discussion
3. Tells pupils about some interesting things to read
4. Influencing pupils towards his/her own orientation
5. Suggests to pupils new and helpful/ways of studying.
6. Talks with pupils after school about ideas the pupils had
7. Asks small groups of pupils to study something together.
8. Shows pupils how to look up an answer when the pupils cannot find it themselves.
9. Asks the pupils what they would like to study in tomorrow's lesson.
10. Acts disappointed when pupils get something wrong
11. Asks the class what they think of something a pupil had said
12. Modifying his/her attraction toward the pupils, i.e., liking them less.
13. Supports the lesson with examples from day to day life
14. Cordially welcomes any new comer to the class
15. Cares friendship among all the students
16. Behaves equally with every student
17. Takes up seriously and does everything possible to restore the efficiency of the students.

18. Insists upon the completion of the home-tasks

19. Keeps in touch with the progressive literature not only in the subject of specialization but on others as well.

20. Helps the pupils to go up by themselves.

The students also rated their teachers on the same 20 behaviours. Ratings were also obtained from the friends and the headmasters of the teachers. The discrepancy data between the teacher's self-rating versus students, friends and headmasters' ratings were used as feedback to the teachers for their behaviour change in favour of the 20 desirable behaviours. It was noticed that 74% of the teachers changed their behaviour on the feedback from their students. Feedback from others did not receive so much attention from the teachers. It was concluded that:

1. Human behaviour in general and teacher behaviour in specific can be changed if proper feedback from the proper group or persons, is put for consideration.

2. The feedback from the students rating about their teachers is the most effective method.

The above, however, necessitated knowledge about the self-concepts, values and diagnosing the ailing spots for putting them into situational analysis or cross-sectional analysis of the immediate psychological field in which the individual works, moves and acts as a dynamic unity, a whole person and it is as such that he takes part in social phenomena. Only then, significant changes can be made in the persons behaviour.

(b) Behaviour Control. Bruner (1969) had devoted one full chapter on behaviour control. He had suggested two approaches to the problem of control.

The first one is cognitive control where men's minds are controlled by shaping their conception of the world in which they live. This will mean structuring and perceiving the world in which the men will have their culture, life and living on a safer footing.

The second one is based on altering directly the acts and not the experiences of the person by either punishment or reward. This process is principally based upon the dyad of coercion and seduction which will force the people to behave in a particular way which he will not do, if kept to himself only. The difference is that normally people prefer to behave as per their past experiences, making it a self-administered control on one's own self, whereas, on the other hand, the process is extrinsically administered where gains and losses are regulated externally.

The obvious question which emerges here, is around the purpose of desirable expected behaviour, the method, degree, desirable period or duration of control on a person. The societies may attempt to exert social control through either of the methods for following a direction and a goal. These are relative concepts and swings

between monopolistic and pluralistic pre-emptions. The question is of invention of newer individual, social and universal human behaviours as deemed necessity for the changing societies. It is here that "behaviour technology" has got a good foundation and an inventive route to a newer understanding of human behaviour. The behaviour technologists can invent these behaviours and use them for behaviour transplantation and behaviour change.

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NFE IN GOVERNMENTAL SECTION

DEVELOPMENTS IN NON-FORMAL EDUCATION - A BRIEF FOR DISCUSSION

Dr. H. L. Sharma
N.C.E.R.T.

Non-Formal Education (NFE) in our country presents a diversity of problems and issues which demand specific diagnosis and solutions by the country's education policy makers and professionals in NFE.

NFE ranges from the acquisition of non-functional literacy to the pursuit of a formal course. A number of educational programmes of NFE have been developed for all categories of learners from pre-elementary to higher education. The areas covered through these programmes methods arts, crafts, sports, vocational education, language learning and so-on. NFE has several practioners and also votaries, yet no two people think alike or agree on its concept, definition, content, competencies, methodology, evaluative process etc. Even The name - NFE is known as ANAUPCHARIC, NA-AUPCHARIC, AUPCHARI KETAR GAIR AUPCHARIC in Hindi speaking States. NFE in our country means non-formal education for school going children for the age group (6-14). The Central Govt. has launched a NFE programme which is being implemented by the 16 states/ UTs and 410 voluntary Agencies in 18 states.

NFE During 1960-1970

- Education Commission (1964-66)-"adoption of a flexible programme of part time education at the elementary stage, the content of which had to be determined according to the needs and aptitudes of the learners".
- Publication of the book The World Educational Crisis (1968) - giving up exclusive emphasis on formal system, introduction of an element of NFE within the system.

NFE During 1970-80

- NCERT (1973), Action Research Projects to integrate education with environment and making work experience - the central focus of education.
- CABE (1974) giving up the exclusive emphasis on formal system of education and for introducing within the system a large element of non-formal education, a radical reconstitution of the existing system, adoption of multiple entry system and a large scale programme of part time education for those children who cannot attend schools for some reason or the other.

- Launching of UNICEF assisted Projects-Primary Education Curriculum Renewal and Developmental Activities in Community Education and Participation (1976).

- On 5th April,1977 Government declared, Universal literacy would be attained in the country within a definite time frame of not more than 10 years.

- (In Feb.1978) "Every child shall continue to learn in the age group 6-14 on a full time basis if possible and on a part time basis if necessary". Working Group identified nine educationally backward states - Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan, U.P. & West Bengal.

- June (1978), a scheme: Experimental Projects for Non-Formal Education for children of 9-14 Age Group for Universalisation of Elementary Education. M.P. Model entire curriculum of 5 years of primary stage condensed into 2 years curriculum - 18 graded units. Age (group 9-11). Madhyapradesh Model No.1 and Madhya Pradesh Model No.2. "Non-formal education for the middle stage, i.e. classes VI-VIII cannot, it has been established, be condensed, however,instructions in non-formal centres for the children of the

age group 11-14 for middle stage education would also be on the basis of graded units so that the students can progress at their own pace. Self learning is a major feature of the non-formal approach and hence students below the age of 9 are not likely to benefit from non-formal education".

NFE During 1980-85

- Implementation of NFE scheme by 9 educationally back-ward states.
- NCERTs programme of Non-formal Education(1978-1982) Liberalisation of norms and pattern of Central Assistance (June, 1982).

Item	Present form	Revised form
1. Strengthening of state Directorate of Education.	Full time Joint Director of Education for NFE Prog.	A full time officer to the level of Joint Director of Education.
2. Teacher cost: Primary Level	At Rs.50 per pupil per annum for a centre of 25 children (which worksout to Rs.1250/-per teacher per annum or about Rs.104 per teacher per month.	Rs.105/-per month Ideally the number of children in a centre, should be 25, but it may be made flexible with 20 as the minimum and 35 as the maximum for a centre if the number touches 40 another centre with a separate teacher may be allowed.

Item	Present form	Revised form
3. Teacher cost: Middle level	At Rs.60/-per pupil per annum(which works out to Rs.1500/-per annum per teacher or Rs.125/-per teacher per month)	Rs.125/-per month per teacher (Teacher Pupil ratio in the NFE centre as in the case of primary level NFE centre).
4. (a) Contingent expenses, including lighting: Primary level.	At Rs.300/-per centre per annum or Rs.12/-per annum per pupil.	At Rs.350/-per centre per annum .
(b) Middle level	Rs.350-per centre per annum or Rs.14/-per annum per pupil.	At Rs.400/-per centre per annum.
5. (a) Teaching materials like slates, exercise books pencils etc. Primary level	At Rs.2/-per pupil per annum	At Rs.3/-per pupil per annum.
(b) Middle level	At Rs.3/-per pupil per annum	At Rs.4/-per pupil per annum.
6. (a) Equipment: Primary level	Rs.10/-per (new) pupil	Rs.250/-per new centre for a minimum period of three years.
(b) Middle level	Rs.25/-(per new) pupil.	Rs.625/-per new centre for a minimum period of three years.
7. Supervisor cost:	Nil	Rs.180/-per centre per annum(one supervisor for 40 centres)
8. Central Assistance	Over all administrative and academic inputs as per approved norms on 100% basis and sharing the cost of running non-formal centres in the ratio of 3:5 three with central funding and five with state funding.	Sharing of the expenditure on all approved items taken together as per the revised norms.50:50 basis.

- Implementation of the scheme by NCERT and the states, curriculum, Materials, strategies, Instructors training, Evaluation etc.

NFE During 1985-1990

- NFE scheme thoroughly reviewed and redrawn in the light of the NPE - 1986, enlarged to include children from hilly, desert, urban slums and tribal areas with concentration of working children in all other States/UT.

Some significant excerpts from NPE-1986

5.5 - Thruston E.E.(i) universal enrolment and universal retention of children upto 14 years of age, and (ii) a substantial improvement in the quality of education.

5.8 - large and systematic programme of non-formal education for school drop outs for children from habitations with out schools, working children and girls who cannot attend whole day schools.

5.9 - Modern technological aids to improve the learning environment of NFE centres... All necessary measures will be taken to ensure that quality of non-formal education is comparable with formal education.

5.10 - Steps to provide a framework for the curriculum on the lines of the national core curriculum but based on the needs of the learners and related to the local environment, to develope material of high quality... participating learning environment, activities such as games and sports cultural programmes, excursions etc.

5.11 - Much of the work of running NFE centres will be done through voluntary agencies and Panchayati Raj institutions . The provision of funds to those Agencies will be adequate and timely. The Govt. will take over all responsibility for this vital sector.

5.12 - The New Education Policy will give the highest priority to solving the problem of children dropping out of school and will adopt an array of maticulously formulated strategies based on micro planning, and applied at the grass roots level all over the country, to ensure children's retention at school. This effort will be fully coordinated with the net work of non-formal education. It shall be ensured that all children who attain the age of about 11 years by 1990 will have had five years of schooling, or equivalent through the non-formal stream likewise, by 1995 all children will be provided free and compulsory education upto 14 years of age.

- 3.7 Minimum level of learning will be laid down for each stage of education.... to foster among students an understanding of the diverse cultural and social systems of people living in different parts of the country. (National System of Education)

- 9.6 District Institutes of Education and Training (DIET).... to organise pre-service and inservice course for elementary school teachers and for the personnel working in non-formal and adult education (strengthening of SCERTs, Role of NCERT).

  - Plan of Action (POA) - Implementation of NPE-1986.
  - NFE Scheme as per Directives of NPE and POA Governmental Sector and Non-Governmental Sector. (Revised scheme - Six Models for NFE.)

    NCERTs work - All aspect of NFE including Academic Evaluation.

    NIEPA's work (Administrative and Financial Aspect)
  - Acharya Rama Murtee's Committee for Review of NPE-1986, (perspective paper in December,1990, Report in December,1991). An integrated and holistic view of education to avoid the dichotomies such as formal and non-formal, academic and vocational, technical and non-technical education. Human being not to be treated as a mere'asset' on 'national resource', human being is to be developed into

much more than mere asset by bringing into play the humanistic liberal, social, cultural and spiritual functions of education.

School - the base of the educational pyramid is to be the main instrument for moving towards the goal of universalisation. All essential resources both financial and intellectual, should be made available to the school to enable it to REACH OUT TO the children out side theschool, at least two thirds of whom are girls. The school should OPEN UP AND NON-FORMALISE in creative ways. This would be preferable to building up an exclusive parallel system of non formal education for the poor and working children. Creative non-formal education responding to the need-patterns of drop outs or left outs such as the workmg child, girls who cannot attend schools and children in unseerved habitations on social situations can continue to play a supportive and, more importantly a challenging role in society during the transitional phase so that there is continuous pressure on the school to OPEN-UP AND NON-FORMALISE itself.

- Non-formalise the formal system over a period of time, some of the steps;
- Shifting of the school timings as per the convenience of the majority of children.

- Adjusting the school calander to agricultural activities and local engagements.
- Introducing a child centred approach with a reduction in school hours but an increase in learning hours with improved pedagogic practices.
- Linking at least one day care centre providing holistic services for children in the 0-6 age group with the school.
- Holding classes in the morning for the written tradition and in the afternoon for the oral tradition.
- Introducing upgraded classrooms to encourage children at different levels of learning to set their own pace.
- Allowing working children and children from migrant families etc 'to drop in' at the school as a direct consequence of the previous measures.
- Recruit para teachers in addition to the regular staff for early morning - or evening classes and for habication still unserved by a school, pay them a respectable emolument and make provision for their absorption as regular teachers in course of time.

- Handing over effective control of the school to a coordinated management system involving the village education committee, the school and the educational complex.
- Work done by NCERT and by States.

NFE During 1990-1995

- Revised Policy Formulations (May,1992).Reviewing the Ramamurtees Committee recommendations (Janardan Reddy Report)

5.5 New thrust in elementary education

(i) universal access and enrolment

(ii) universal retention of children upto 14 years of age; and

(iii) a substantial improvement in the quality of education to enable all children to achieve essential levels of learning.

5.8 The Non-formal Education Programme meant for school dropouts, for children from habitations without schools, working children and girls who cannot attend whole day schools, will be strengthened and enlarged.

5.9 As in NPE-1986 steps will be taken to facilitate lateral entry into he formal system of children passingout of the non-formal system.

5.12 (A Resolve) Revised

The New Education Policy will give the highest proority to solving the problem of children dropping out of school and will adopt an array of meticulously formulated strategies based in microplanning, and applied at the grass roots level all over the country, to ensure children's retention at school. This effort will be fully coordinated with the net work of non-formal education. It shall be ensured that free and compulsory education of satisfactory quality is provided to all children upto 14 years of age before we enter the twenty-first century.

- UEE During VIII Five Year Plan
  (Emphasis shifted from enrolment to retention)
- Universal enrolment of all children, including girls and persons belonging to SC/ST.
- Provision of primary school for all children within one km. of walking distance and facility of non-formal education for school dropouts, working children and girls who cannot attend school,

- Improvement of ratio of primary to upper primary schools from the existing 1:4 to 1:2, this being a precondtion for larger opportunity for widening girls participation at upper primary stage.

Participation

- Reduction of dropout rate in classes I to V from 46% to 20% and 60% to 40% in classes I to VIII.

Achievement

- Achievement of minimum level of learning by approximately all children at the primary level, and introduction of this concept at the upper primary stage on a large scale.

Strategies for UEE

- adoption of a disaggregated approach
- preparing area specific, population specific plans for UEE within frame of Microplanning through peoples participation and introduction of MLL.
- Universal access and universal participation (Micro planning) - "family wise and child wise approach"
- Universal achievement (MLL)

DISTINCT FEATURES OF THE EXISTING SCHEMES AND SCHEME PROPOSED IN VIII FIVE YEAR PLAN

Item	Existing Scheme	Proposed Scheme
Priority Areas	No specific mention	Girls, Schedules Castes, Scheduled Tribes, Children monorities and migrating population and physically handicapped children.
Coverage	Ten Educationally backward States hilly, desert, urban slums, tribal areas and areas with concentration of working children in all other States/UTs.	Ten educationally backword States as well as in other States/UTs where there is a demand for NFE centres.
Implementing Agencies.	States/UTs. voluntary agencies and Panchayati Raj institutions.	States/UTs, voluntary agencies, educational institutions, Panchayati Raj Institutions, research institutions, media institutions, activists groups, teachers trade unions, industrial undertakings and individuals.

Financial Pattern	Implementing Agencies	Share of central assistance	Implementing agencies	Share of central assistance
a) Coeducational NFE centres	States/UTs	50%	States/UTs	75%
	V.As.	100%	V.As & other groups	100%
b) NFE centres exclusively for girls	States/UTs	90%	States/UTs	90%
	V.As.	100%	V.As. & other groups	100%
c) Special projects aimed at pockets of working children	-	-	States/UTs	100%
			V.As and other groups	100%

d) Experimental and innovative projects.	Govt. agencies, educational institutions, Panchayati Raj Institutions.	100%	States/UTs V.As and other groups	100% 100%

5. Projects	Projects to have about 100 NFE centres in a compact and contiguous area co-terminous with Community Development Block.	Emphasis on decentralised management.strengthening project approach NFE projects to have about 100 centres with flexibility in the cases of projects in the remote and hilly areas, all projects for girls children as well as those with centres only for the upper primary level and projects for working children . Area specific approach through micro-planning exercises to determine the need for NFE centres.
6. Education of girls.	Limits the scope to the extent of 25% of the total centres.	Greater emphasis by increasing percentage of girl centres from 25% to 60% of the total centres with flexibility.
7. Duration of course	2 years at lower primary level and 3 years at upper primary level.	2 years at lower primary level and 3 years at upper primary level with flexibility suiting the different categories of learners. Admission in NFE centres both annually and from time to time. Centres at each place to continue till all out of school children achieve prescribed minimum levels of learning.

8. Learners per centre	25 per centre (average)	25 per centre average with flexibility provided for centres meant speckfically for girls, working children/or located in remote, hilly and scattered areas.
9. NFE centres at upper primary level.	Inadequate attention	Greater attention to NFE programme at upper primary level by increasing percentage of upper primary centres from 10% to 20% and emphasis on training and teaching-learning materials at this level.
10. Project Officer	Inadequate responsibilities and powers without provision for training .	Greater role with specific responsibilities, Drawing disbursing power, cheque signing authority and for drawing funds for purchasing teaching learning material and other equipment and making payment of honorarium to instructors and supervisors.
11. Supervisors	Role emphasised without adequate funds for trg. of supervisor.	Greater role with increase in the cost of supervision per centre and separate funds for training of supervisors.
12. Instructors	Role emphasised with adequate funds for trg.	Greater role, with increase in honorarium at primary level and also at upper primary level. Funds for training increased. Training also systematized.
13. Learners	All out of school children in Ten educationally backward States and in selected areas of non-educationally backward States.	All out-of-school children in the age group 6-14. Incentives for children belonging to SC,STs and girls. Provision of continuing education through Janshiksha Nilayams, agencies with the help of community.

14.	Community involvement	Role emphasised	Greater emphasis with financial provisions.
15.	Curriculum	Flexible	Greater emphasis on flexibility and its development with active involvement of DIETs/DRUs, SCERTs, NCERT and Voluntary Agencies.
16.	Teaching-learning material	Teaching-learning materials to all learners.	Emphasis on development of local, area specific teaching-learning material suiting to needs of learners. - Greater emphasis on production of innovating and relevant teaching-learning materials by involving voluntary agencies and other groups. More funds to SCERTs under programme. - Increasing teaching-learning material costs under centre costs.
17.	Training of NFE personnel	More emphasis on training . 30 days in first year & 20 days in second year instructors but no provision of training allowance.	- Training components to be strengthened further by increasing provision of training allowance and introducing provisions for training of supervisors and other personnel.
18.	Monitoring and evaluation	Not much attension and no separate financial provisions.	Systematized by making provisions for introducing Computerized Management System and concurrent evaluation.

19.	Evaluation and certification	Little emphasis but no any regular system	Greater role to be emphasised for evaluating achievements of NFE learners in terms of minimum levels of learning determined for this purpose. Evaluation to be carried out after evry 6 months. - Development of systems for providing certification of achievement to ensure interchannel mobility between non-formal education and formal education.
20.	Mass media	....	Roll emphasised for utilizing mass media in improving the teaching-learning strategy and expanding the programme with the involvement of connected agencies and making financial provisions thereof.
21.	Administrative support	Available at State, district and Project level to Ten educationally backward States only.	Strengthened at all levels. Availability to non-educationally backward States also depending upon the size of the programme. Linkages with other agencies for ensuring universalisation of Primary Education.
22.	Technical Resource Support.	-At national & state level. -Available to educationally backward States only.	At national, and State and district levels to be strengthened. - Available to non-educationally backward States also depending upon size of the programme. - Close and continuous linkages with various administrative agencies.

		- Role of different agencies Involvement of Voluntary Agecies other groups for providing academic support to the programme.
23. Involvement of Voluntary Agencies	Role emphasised	Enhanced involvement by providing more flexibility and expanding the scope. Involvement of front-line Voluntary Agencies to give guidance to other Voluntary Agencies in undertaking this prog. Involvement of Voluntary Agencies in providing academic support including mass-media. - Work to be done as per directives in future by Institutions and States and Agencies. Some innovative progs. - Scheme of Government Assistance to Voluntary Agencies for running NFE centres.

SCHEME OF GOVERNMENT ASSISTANCE TO VOLUNTARY AGENCIES FOR RUNNING NFE CENTRES - A BRIEF FOR DISCUSSION

Dr.H.L.Sharma
N.C.E.R.T.

"Much of the work of running NFE Centres will be done through voluntary agencies and Panchayati Raj Institutions. The provision of funds to these agencies will be adequate and timely. The Government will take over-all responsibility for this vital sector".
(5.11 National Policy on Education, 1986)

"Voluntary organisations and activist groups are to be viewed as expressions of people's own initiatives and of will to bring about social change, rather than as mere implementing agencies of Government for undertaking officially sponsored individual schemes and programmes. It should be ensured that a liberal flow of funds from Government does not dilute the voluntary spirit of these institutions or distract them from their self chartered courses of action. The preferred path could be for the Government to respond to the initiatives of voluntary organisations with reference to their own programmes, rather than Voluntary agencies being mobilised. At the same time, it is equally important that voluntary groups realise the adverse impact that that receiving large scale funds from Government and foreign sources is likely to have on their own voluntary character. Transparency in the working of voluntary agencies is to be ensured in order to make them accountable to the community. Decentralised mechanisms for monitoring the work of voluntary agencies at the local level will have to be evolved too".

"Education is to be built up as a people's movement where in the Government, Centre and State, may play a supportive and facilitative role. People, through the local bodies and voluntary Agencies, may assume increasingly larger share of responsibility for creative, innovative and participative management of all educational needs of the area".

XXIV and XXV page 16-17, A Perspective Paper on Education-Committee for Review of NPE-1986 - popularly known as Acharya Ramamurti Committee).

The author, at present also is Coordinator of JET for Delhi, assisting NCERT, Field Advisers in JET work and coordinating the JET work at NCERT.

The Government Scheme of NFE aims to effectively establish a partnership between the Government on one hand and voluntary agencies, public trusts, non-profit making companies, social activist groups etc, on the other, in the task of provision of educational opportunities for children who cannot enrol themselves in whole day schools.

Since, 1979, in accordance with the recommendations of Education Commission of 1964-66, the Working Group set up for the Sixth Five Year Plan in 1977, and of the Central Advisory Board of Education (CABE), the Government has been running a centrally sponsored scheme of NFE. The scheme was started first on an experimental basis in nine educationally backward States - A.P., Assam, Bihar, Jammu & Kashmir, M.P., Orissa, Rajasthan, U.P., and West Bengal. During Seventh Five Year Plan it was extended to Arunachal Pradesh and other parts of some states and U.Ts.

The NFE scheme aims at providing education comparable in standard to that of the formal school by organising part-time education for about 2 hours a day through centres run for a group of 20-25 learners each, at a place and time convenient to them through locally selected part time instructors. The scheme is implemented through State Governments and Goluntary Agencies.

levels by DNFESC/ST NCERT. Experiences gathered during these orientations helped in modifying the scheme. Sharma H.L.(1984) conducted an ERIC sponsored study to identify various approaches/practices of NFE in Voluntary Agencies. The findings indicated the delay in grant procedure, in giving material for NFE centres and training of instructors. It may be mentioned that supply of materials for NFE centres and training of instructors were the responsibility of State Government during the Sixth Five Year Plan. These difficulties - supply of materials, training of instructors delaying in grant procedure were removed in Revised NFE scheme. At present grant in aid procedure has minimised the delay.

Under the scheme an agency eligible to receive assistance is required to make an application to the Ministry of Human Resource Development (Department of Education), through the State Education Department (with a copy endorsed directly to the Ministry). The State Government is required to give its views within a period of three months regarding the agency's eligibility, suitability, relevance of the proposal and the capacity of the agency to implement it. Comments are required to be sent by the State Government even if the proposal is not recommended giving reasons therefor. Applications for grant in aid are considered by the Grants-in-Aid Committee constituted for the purpose inthe Ministry.

At present, March-April, 1992, there are 2.72 lakh NFE centres sanctioned to 16 /U.Ts and 410 Voluntary Agencies.

The scheme of Government assistance to voluntary agencies for running NFE centres was started first on an experimental basis during the year 1981-1982. Since then the scheme is continuing.

The following table provides approximate number of Voluntary agencies which received grant from Central Govt. It also gives number of - Joint Evaluation Team (JETs). Thirty two JETs have been constituted in January,1992.

	1982 - 82	Upto 86-87	Upto March,92	No.of JETS
Andhra Pradesh	3	3	27	2
Assam			11	1
Bihar	2	3	36	3
Delhi			7	1
Gujarat			31	2
Haryana			9	1
Himachal Pradesh			4	1
Jammu & Kashmir			1	1
Karnataka			4	1
Kerala		1	1	1
Maharastra			84	4
Madhya Pradesh	14	14	13	1
Manipur			3	1
Orissa			90	4
Rajasthan	35	36	26	2
Uttar Pradesh	4 10	11	47	4
Tamilnadu			13	1
West Bengal	1		8	1

The author has been organising orientation programmes for the senior faculty members of the VAS on selective basis. Since 1989 the orientation programmes are being organised for Voluntary Agencies at regional

The scheme stipulates that ordinarily the Committee would go by the advise of the State Government.

A Voluntary Agency of an all India character, who has been associated in planning and formulation of education strategies, implementation of the programme of voluntary agency might have been seen by State Government and an evaluation of the work of the agency might be available to enable an assessment of its ability to take on an NFE project, may submit project proposal to MHRD (Department of Education).

Approval to a project implies examination from an administrative, technical and financial point of view. At the State Secretariat level what is required is a technical appraisal of projects including the agencies familiarity with pedagogy, experience, expertise etc. At the district level the examination should be of an administrative character and include working out of the project area and clearing the agency from the communal and non political angle.

In pursuance of a decision taken by the Grants-in-Aid Committee, Joint Evaluation Teams (JET's) comprising of one representative each of the Central (Field Adiser, NCERT, Principal of R.C.E. or his nominee and Head of DNFE SC/ST or his nominee) add State Governments and one non official member have been constituted to take up a comprehensive evaluation of all ongoing NFE

projects. In January, 1992, Thirty two JET's have been constituted to evaluate the working of Voluntary Agencies. Details have been given in the table already mentioned. In addition, institutions of Social Science Research and some agencies have been identified to evaluate both the Government and voluntary agency projects. Regional College of Education, Bhopal has taken up an evaluation project.

The Grant-in-Aid Committee, has also felt that in addition to the Joint Evaluation and External Evaluation, it would be better to have a pre-sanction appraisal of projects to ensure that only agencies with strengths in conceptualisation and having abilities to successfully implement porjects are sanctioned NFE projects. The appraisal may include an assessment of the ability of the agencies to take up area saturation projects and interact with schools to ensure that children in the identified area are either in school or have been brought within the fold of the NFE system. The proposed pre-sanction Appraisal Committee will draw guidelines for examining the various types of abilities. However some of the abilities may be:

- any specific educational philosophy expused by the agency.

- the agency's experience in primary education-e.g. schools. NFE or any other mode of primary education-including health education and environment education, along with evidence of the same. Experience in adult education could be included.
- Experience in working with children from deprived sections/girls.
- Any specific teaching method followed such as learning by doing, work based learning, environment oriented methods.
- Innovative teaching learning materials used by the agency.
- Innovative training methodology followed by the agency-Institutions.
- Capability for training itself and imparting training to other organisations.

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EDUCATION IN VALUES

Dr. R.C. Das

Of late, a concern has been expressed by Government as well as the public that there has been erosion of values in our society and there is a need for education in values in our schools and colleges. Mahatma Gandhi's teachings of truth and non-violence have not taken root in the conduct of our people. On the other hand, corruption and violence are more rampant. Narrow communal and linguistic onsiderations are given greater value in our conduct than national interests. Values-secularism, socialism and democracy-enshrined in our constitution are more often violated than practised. Some people think that education is responsible for this state of society, because moral education is not taught in our schools. We are now being asked to adopt some scheme of education not only in universal human values (common to all regions) but also in the social and political values enshrined in our constitution.

Concept of Values

The great majority of professional educators believe that our values come from our experiences. Both White-head and Dewey have said that the quality of an experience is to be judged by the thinking that has been involved in it, the connections that have been made between the immediate experience and our existence,

past, present and future. Dewey indicates that his concept of values includes:

"1. The idea of prizing, cherishing and holding dear.

2. The idea of reflection and making connections between the factors of the situation in one's existence to the end that intelligence is employed and that improved judgement is concluded.

3. The idea that action in support of an approved value will be taken".

Thus in order to make a value judgement, one considers all facts in a situation, thinks of possible alternative courses of action and possible consequences of each alternative and on the basis of some criteria developed by the individual decides which alternative action he would take. The criteria indicate what he prizes most, or what are his values.

The traditional approach to value education has been to instil, inculcate or develop in the child a given set of values. These values may be the values stated by religion or, in a secular society, those determined by the state. These values are incorporated in textbooks, through stories, poems or directly mentioning them in thediscussion of curricular topics. Sometimes

moral stories are taught in the scheduled periods of a school time-table. Other methods prevalent are organising activities and observing and guiding development of good habits and good conduct. In all these methods, a set of pre-determined values is sought to be developed in the children. Many educators think that this is nothing but indoctrination of values and that ina free society, education has no right to indoctrinate values. Further, research indicates that these methods of teaching values through textbooks or other instructional materials or through forced regulation of behaviour, does not generate these values in the children, i.e. when they have choice and freedom, they may not choose the behaviour/action determined by the indoctrinated values.

Aims of Moral Education

Moral values are a specific category of values which are based on the concept of justice. The aims of moral education have been well stated by W.K.Frankena:

"1. to cultivate a grasp of 'the moral point of view' or the moral way of judging actions and deciding what oneshould do as distinguished from, say, the aesthetic, legal or prudential point of view.

2. to foster a belief in or an adoption of one or more fundamental general principles,

ideals or values as a final basis for moral judgment and decisions,

3. to foster a belief in or an adoption of a number of concrete norms, values or virtues, such as were mentioned in connection with the old moral education,
4. to develop a disposition to do what is morally right or good, and
5. to promote the achievement of reflective autonomy, self government, or spiritual freedom, even if this leads the individual to criticize prevailing ideals, principles or rules".

The first three objectives were the objectives of old moral education which tried to develop a set of pre-determined norms of behaviour. The last two objectives are the objectives of modern moral education which does not believe in indoctrination of values but aims to develop autonomous moral judgment based on self-developed moral principles.

Stages of Moral Development

Piaget and later Kohlberg hwe done a lot of research in the development of moral judgment and found that there are distinct sequential stages of moral development. Piaget found four stages of development of moral judgment as follows:

1. The Ego-centric Stage-His judgment at this stage is only in so far as it gives pleasure or pain to him (or his body). At this stage, the child conforms to authority, if, otherwise, it feels it will get hurt.

2. The Autboritarian Stage-At this stage moral judgement is in terms of obedience to authority, parents, teachers, etc. All moral judgements are now made in relation to the view that rules are virtually unbreakable. Obedience is taken as a value.

3. The Reciprocal Stage-Rules are now accepted because they emerge as the expression of reciprocity amongst social equals. An action is now deemed to be good, if it is socially fair , and bad, if it is socially unfair.

4. The Stage of Equity-When reciprocity is informed by altruistic concern (concern for others) it issues in equity. This is not a legal relationship based on consideration of justice and equity but a human and moral relationship based on concern and compassion.

In 1970, Kohlberg[4] did an extended study of how children and adolescents make moral judgments and found similar stages of development. He classified them into

three levels-preconventional level, conventional level and post-conventional, and autonomous level which broadly correspond to Piaget's authoritarian, reciprocal and equity stage, respectively. Kohlberg, however, divided each level into two stages and thus obtained six stages of development of moral judgment . These are as follows:

1. Pre-conventional Level

   Stage 1-Punishment and Obedience Orientation: Avoidance of punishment and unquestioning defence to power are valued in their own right.

   Stage 2- Instrumental Relativistic Orientation: Right action consists of that which instrumentally satisfied one's own needs and occasionally needs of others.

2. Conventional Level

   Stage 3-Inter-personal Concordance Orientation: Good behaviour is that which pleases or helps others and is approved by them.

   Stage 4-'Law and Order' orientation. There is orientation towards authority, fixed rules, and maintenance of the social order.

3. Post-conventional or Autonomous Level

   Stage 5-Social Contract Legalistic Orientation: Right action lends to be defined in terms of general individual rights and in terms of

standards which have been critically examined and agreed upon by the whole society.

Stage 6-Universal Ethical Principles

Orientation: Right is defined by the decision of conscience in accord with self-chosen ethical principles appealing to logical comprehensiveness, universality and consistency. These principles are abstract and ethical.

Kohlberg has found that these are sequential stages of moral development which occur naturally and universally in all individuals, although development in some individuals may stop at any level. He found that the stages are sequential, that is, development to a stage cannot be reached unless the previous stages have been attained. Further, he found that "even when stage 4 has been attained, an individual cannot be taught principles of stage 5 directly, but must largely generate them himself by reorganizing his thinking after experiences of conflict".

"A series of studies by Blatt and Kohlberg indicate that more restricted educational efforts to stimulate moral development can also have a significant effect on children. In one study, a class of ten sixth graders met once a week for three months to discuss moral dilemmas. A majority of the students in the class moved ahead almost one full stage, which is a substantial

change for that period of time. Furthermore, those who had advanced after the 12 weeks, remained advanced one year later".

Kohlberg's a approach to moral education is called cognitive development of moral judgment. First, he recommends giving a test of moral judgment to determine the stage of development at which each pupil functions. The pupil is asked to react to hypothetical moral dilemmas and his replies are analysed to see to which stage of moral development they belong. The education programme consists of small group discussions of moral dilemmas. As the groups discuss, the teacher suggests moral reasoning one stage higher than that of the pupils. The teacher's opinion is neither stressed nor invoked as authoritative. The notion that some judgments are more adequate than others is communicated. Kohlberg and his associates found that such discussions of moral dilemmas aceelerate moral development to the next higher stage. Since the stages are sequential, it is necessary that discussions should aim at advancing the pupils to the next higher stage than the stage at which they are at any time.

"An experiment by Turiel indicated that when the child absorbs thinking one stage above his own he is not simply passively learning and that upward change depends upon exposure to conflicting points of view or alternatives

and subsequent reorganization. Exposure to preaching of the next stage up without arousal of conflicts and uncertainty will not cause upward change".

Kohlberg admits however that development of moral judgment is only one aspect of moral character. So he recommends that "in addition to stimulating development of general moral judgment capacities, a developmental moral education would stimulate the child's application of his own moral judgments (not the teacher's to his actions". As Kohlberg states, "the attractiveness of defining the goal of moral education as the stimulation of development rather than as the teaching of fixed virtues is that the child is helped to take the next step in a direction towards which he is already tending, rather than having an alien pattern imposed upon him".

Loughran studied moral judgment of adolescents. "He found that nearly two-thirds of his adolescents made moral judgments based on equity; secondly, that objective thinking, i.e. considerations of authority and equality were not confined to childhood. Three further very important conclusions emerged. Prejudice was correlated with poor moral judgment. Children with high personality ratings as assessed by IPAT tests made better moral judgments". There was no difference in the moral judgment of both sexes. Lerner and Barkley have found sharp

social class differences in moral judgment. Children from high status homes tend to display a much more nature form of moral judgment than children from low status homes.

Recently (1985) Andre Schlaefli and associates made a meta-analysis of 55 research studies of educational interventions designed to stimulate development in moral judgment. All these studies used the Defining Issues Test. The studies were conducted in different countries. Various subject groups were involved (junior and senior high school students, college and graduate students and adults). Various types of programmes were employed (group discussion of moral dilemmas, psychological development programmes, social studies and humanities courses), and the duration of the programmes varied (a few hours to a year long programme). The major conclusions of the meta-analysis are:

"1. Moral education programmes emphasizing dilemma discussion and those emphasizing personality development both produce modest but definite effects with the dilemma discussion method having a slight edge.

2. Academic courses in the humanities and social studies do not seem to have an impact on moral judgment development.

3. Programmes with adults (24 years and older) seem to produce larger effect sizes than programmes for younger subjects; however several artifactual explanations may account for this trend.

4. Effect size is related to exposure to Kohlberg's theory. Whether this is test contamination or true developmental change needs to be determined.

5. Interventions longer than 12 weeks have no more impact than interventions of 3 to 12 weeks; however, duration less than three weeks tends to be ineffective when measuring moral judgment by the DIT".

These studies show that education in values through the curriculum is least effective. Earlier studies have also yielded similar results. Two kinds of approach appear to be more promising: one is based on Kohlberg's theory and uses discussion of moral dilemmas and the other uses personality development approach.

Earlier, Piaget in his studies on moral development had found that the following moral attitudes are developed: (1) Responsibility, (2) Altruism (3) Rationality, and (4) Autonomy. These attitudes are associated with the different stages of moral development. So if appropriate

learning experiences are given to stimulate development of these attitudes, moral development will also be accelerated.

Kohlberg is not in favour of development of values other than moral values, for two reasons: "First, it is not clear that the whole realm of personal, political and religious values is a realm which is non-relative, i.e. in which there are universals and direction of development. Second, it is not clear that the public school has a right or a mandate to develop values in general".

However, other educators argue that so long as the school is not imposing any set of values but stimulating and clarifying the values, this falls within the functions of the school. There are several approaches used for value clarification and value awareness. However, in all these approaches, pupils discuss, preferably in small groups, hypothetical situations in which values conflict.

A theory and a set of classroom techniques in value clarification have been developed by Sidney Simon, Merrill Harmin and LousRaths. The theorists believe that when students are faced with conflicting sets of values, an individual value crisis may occur which could produce confusion, apathy, hostility or other negative results which are destructive to personal growth and the teaching-learning process. The basic theory focusses on seven

processes of helping students towards developing and clarifying their own values. These seven processes are "choosing freely, choosing from alternatives, choosing after consideration of the consequences, prizing one's choice, publicly affirming these choices, acting on choices and incorporatigg these choices into a pattern of life. Classroom techniques for clarifying values have been developed to help students learn and use one or more of these seven processes".

J.R. Fraenkel has described a classroom technique which is called "Analyzing value conflict". A value dilemma is presented to students. A value dilemma is a situation, argument or illustration in which one or more individuals are faced with a choice (this is essential) between two or more conflicting alternatives, each of which is desirable to some degree. Then the following steps are taken:

"Clarify what the value conflict is about, then,
Ask for facts.
Ask for conceivable alternatives,
Ask for possible consequences of each alternative.
Ask for evidence to support the likelihood of each consequence occurring.
Ask for an evaluation of desirability of likely consequences.

Ask for a judgment as to which alternative seems best and why".

While evaluating the desirability of likely consequences, we should make sure that students understand the concept of criteria. A criterion is a characteristic or a set of characteristics which make a consequence (or any thing else) desirable or undesirable (or somewhere in between) to some one. Criteria are essential for intelligent reasoned ranking. Students should be exposed to various criteria such as-

Moral criterion (to what extent the lives and dignity of human beings be enhanced or diminished) Legal criterion (would any laws be broken ?) Aesthetic criterion (would the beauty of something be increased or reduced ?) Ecological criterion (would the natural environment be harmed or helped ?) Economic criterion (how much cost would be involved ? Are sufficient funds available to pay ?)

Health and safety criterion (would the lives of human beings be endangered in any way ?)

Students should be asked to make their own judgments after ranking the consequences, using their own criteria. During discussion, they should explain how they arrived at their judgments. They will also hear how

other students have arrived at judgments. This will enable them to compare their judgments with those of others and to make changes in their criteria if they think necessary . In this way, they learn to clarify their own values and learn a method of resolving value conflicts.

In brief, the present state of research supports the view that there are universal stages of moral development and that a developmental approach to moral education appears to be effective in bringing about accelerated growth inmoral judgment. At the same time, in the modern world, man is continuously facing conflicts of values. It, therefore, appears propr to say that education has a role in enabling the child to make value judgments. In doing so, he should develop his own criteria, with the help of which he can evaluate the consequences of any action that may be taken in a value dilemma. Both Kohlberg's cognitive development of moral values as well as Raths' value clarification approach may be adopted as useful techniques of education in values.

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Role of Educational Technology in School Education

Prof.S.N.Sharma

CONCEPT:

1. Educational Technology is the application of modern skills and techniques to the requirements of education and training, including facilitation of learning by the manipulation of media and methods, and by the control of environment where this reflects on learning (Unvin, 1968).

2. The national council for Educational Technology offers the following definition:

Educational Technology is the development, application and evaluation of systems, techniques and aids to improve the process of human learning.

3. According to Leedham Educational technology concerns systematic use of modern methods and technologies in teaching and learning.

4. According to Rowntree (1974) Educational Technology is as wise as education itself: it is concerned with the design and evaluation of curricula and learning experienes and with the problems of implementing and renovating them. Thus it is a rational problem solving approach to education, a way of thinking sceptically and systematically about learning and teaching.

DEVELOPMENT:

Entrants to educational technology during the sixties came by one of the two routies - audiovisual education or programmed learning. Programmed learning could be viewed as theory driven in its initial stages, audiovisual education found it difficult to formulate any theoretical basis for its practice.

Most audiovisual specialists saw themselves solely as practitioners, advisers to teachers, trainers of teachers and providers of learning resources for use by teachers. In so far as they had a theoretical base it consisted of two assumptions: (a) that stimulus richness and variety would enhance attention and motivation.
(b) That degree of abstraction was a critical variables in learning.

"Direct purposeful experiences" at the base and "verbal symbols" at the apex was probably the most quently cited conceptual model.

"Technology and instructional process" by Dr.James Finn and "Teaching Machines and Programmed Learning" by Lumsdain and Glarin" introduced two new concepts.

(a) There is the concept of instructional technology as applied to learning theory.
(b) There is the idea of product development through the systematic testing and revision of learning materials

Linking the two concepts wer find the following observatio·

(a) Technology is seen as the direct application of the findings of instructional scientific research and laboratory derived procedures need only minor modification to fit them for general use in education. The psychologists' expertise is paramount (Skinner, 1958).

(b) Technological Research and development is needed to combine findings from learning research with other forms of knowledge. Research and development centres are needed to accomplish the often major modifications that are required to put theory into practice. These should be run by partnership of psychologists and educators (Hilgard, 1964 and Glaser, 1965)

Thus these psychologists saw educational technology being developed within the educational sector, though very closely linked to training technology in the industrial and military sectors in western countries.

Lumadaine (1964) says that we need an instructional programmes while defining instructional programme further says, "An instructional programme is a vehicle which generates an essentially reproducible sequence of instructional events and accepts responsibility for efficiently accomplishing a specific change from a given range of initial completeness or behavioural tendencies."

This goes beyond the idea of a programme as a reproducible presentation to the idea of a programme as guaranteed learning with the programme accepting responsibility for student learning. Finn says that the heartland of instruction is programming. He who controls the programming heartland controls the educational system."

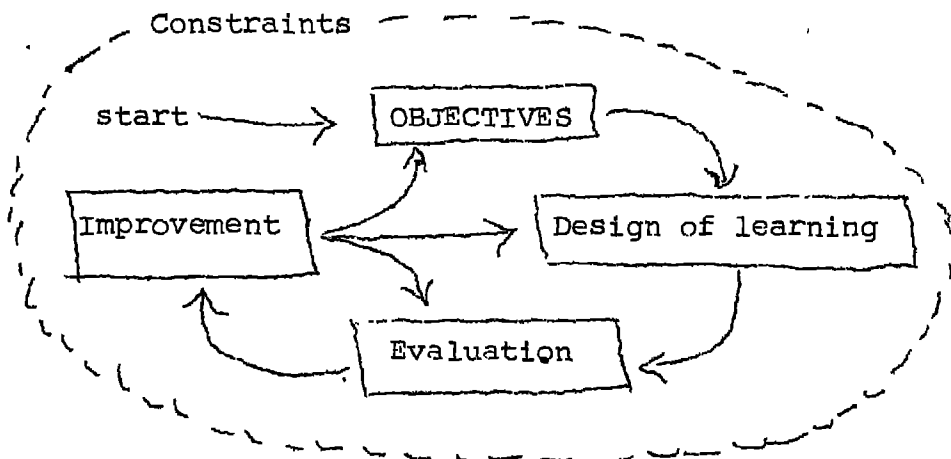
<u>From Tools to Systems</u>:

As seen earlier, educational technology looked like being attached exclusively to a tools technology whose emphasis was on audio-visual aids to the teacher-film, television, tape recorders and so on. Usually the "hardware" (like film, projectors and tape recorders, was developed outside education but teachers were promised 'soft ware' (films,tapes and so on) designed specially to meet their needs.

Since 70s educational technology approach is called the systems approach. Education is a system and a sub-system. When compared with the supra system - society as a whole from where, it received its 'inputs' (students, teachers, material etc. and which expects from it a certain kind of 'output' (people possessing certain skills, attitudes and understanding). These again looking the other way, education itself is also a supra system : a system which intermeshes a number of subsystems, e.g., the administrative system, the examination system, the staff recruitment system, etc., all of which must

work together and facilitate the purpose of the most important subsystem of one, the learning system.

The processes of Educational Technology:

Educational technology is an open strategy. It embodies one crucial value that it is a good thing to say as clearly as possible what it is you are trying to do, how and why you propose to do it, and in what manner you will judge the effectiveness of the system you thereby create. Thus educational technology is a four-phase problem solving approach as given by Rowntru.

1- Analyse aims, describe students (background, interest, attitude, aptitude, skills, understanding), specify objectives, levels of objective, design interview test.

2- Design of learning.
Analyse objectives, identify learning sequence, decide teaching strategy, select media (lecture, discussion, field trip, role playing, film, textbook, models, programmed learning etc.) or combination of media.

3. Evaluation through criterion test that you have already designed.

4. Improvement: Revise and Review.

Thus, have we have a approach that can be used or should be used - every time a piece of teaching is planned. Thus the teacher should think systematically and plan learning experiences for the students.

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NET WORKING OF GOVERNMENTAL AND NON-GOVERNMENTAL ORGANISATIONS AGENCIES FOR QUALITATIVE IMPROVEMENT IN SCHOOL EDUCATION

Prof. B.Das

The concept of net working of governmental and non-governmental organisations/agencies for qualitative improvement of school education actually spread to the whole educational system and its efficient management according to modern technique of management. In Operation Research (OR) net work analysis means the use of a model designed to represent a system as a concatenation of points connected together to depict a special sort of relationship between them. Likewise CPM/PERT/PPBS techniques, are used to operate a system with optional efficiency. In the CPMor CPA the technique is applied to provide optionally effieient scheduling of different phases of any complicated task e.g. listing a school complex as part of the universalisation of primary education under t time-bound programme. In approaching the task certain phases like laying the foundations, building walls, fixing roof frames, tiling or thatching have a natural sequence, and the next cannot be started until the last is complete. Other phases like making the joining, inserting piping

and wiring, if it is provided with electrification and sanitary fittings, fit into the scheme more flexibly although not with absolute freedom. It is not difficult to work out the time required for each phase and the sequence of the phases of work. The Critical Path Method provides a technique for arranging the phases so as to finish the job in the stipulated time. Such techniques require meticulus planning, organisation, information flow and feedback for monitoring and evaluation which constitutes PERT or Programme Evaluation and Research Technique and the entire system is operated by a Master Control. Planning, Programming, Budgetary System is another technique to achieve a similar end. We are all familiar with the Television Net work via satellites in our country with the Master Control situated in Delhi for the national net work with its relay stations. The term has now been adopted for use in management or administration to refer to the interconnection of the officers, agencies, organisations, institutions and personnel that form a part of the total system. Education is such a system and it has to be approached, as is done in advanced countries, from the systemic angle. Such an approach makes it possible for us to break up the system into super system and sub-systems.

in order to recognise and understand their specific problems and solve them with optimal cost effectiveness. Education as such is an organisational or complex whole, an assemblage or combination of things or parts forming a complex but unitary whole. The various agencies whether governmental or non-governmental are parts of the system but they often fail to work as an integrated unit. We can here think of the transportation system, public and private, or the communication system, also public and private (like the courier system now) or the education system, public and private (Bharatiya Vidya Bhawan, Chinmay Mission, Ramakrishna Mission, Christian Mission, Public Schools and other private schools). If the objective is the same then it ought to be possible to conceptualize inter-relationships among the complex phenomena and integrate them into a systematic whole for optimal efficiency. If the objective is formulated and finalised by the Master Control properly then it is possible to take into account the governmental and non-governmental agencies and build up an efficient model. The model often bring absent or in a nefulous state, the agencies work at cross purposes and the efficiency of the system goes down badly. On the otherhand, if we use network analysis and other scientific techniques we can

build up an efficient model. The steps in this regard are (a) defining the objectives (as given in the Policy Documents like the NEP 1986 or CABE Report 1992 for example (b) designing alternative systems to activise these objectives (e.g. private and public schools, the central schools, Navodaya schools, Ashram schools etc.) (c) constructing mathematical medels where necessary to carry out a cost effective analysis, (d) evaluating the uncertainties and stimulating their role and making recommendations (e.g. the Education for All Programme, or Adult Education Programme) (e) Questioning the assumptions and objectives involved in the model in case objectives are not achieved (e.g. universliation of primary education) (f) formulating new alternatives (decentralization schools to the Panchayat level, imposition of education cess). The philosophy of structuralism as propounded by Levi Strauss aiming at a new conception of the human sciences which has been utilised by Jerome Brunner in the <u>Process of Education,</u> will help us, along with the conception of system analysis, as indicated earlier, to grasp the need for the conception of net working or even interfacing of diverse inputs in the field of education for qualitative improvement. Our current notions of education, an account of the explosion of

knowledge at a tremendous pace, have to be modified considerably in order to respond to the topic of networking and the concept has to be made familiar to all the participators in the system. The recent charge in the nomenclature of the Education Ministry as Human Resources Development Ministry is a pointer but its implications have yet to be understood by the state governments which continue to have the old Departments of Education except in Bihar which has changed the name to Human Resources Development Department. The reason why such changes have not occurred elesewhere is the adherence to education as a system of acquisition of information/knowledge for its own sake.

That in its turn implies an ivory tower concept of a school or educational institution. This is a problem of attitudinal change endemic in all developing countries. In our country the degree of this charge varies from state to state. The recent concept of autonomous institutions is a right step but the obstacles in the path of its realization are many. These obstacles can be removed by a change in our conception of education, the role it has to play in a developing country moving in the direction

of modernization under the aegis of science and technology. This change involving modernization involves a wholistic conception of education - its source, process of dissemination and the goals intended to be achieved, all hour to be comprehended as a unified whole.

In the pursuit and development of this conception if we take the first aspect, namely, source, we become immediately aware of the 'crisis in the classroom' as Silvermen expounds it. Education is no longer confined to and available from the closed system of a classroom or school as we understood it a quarter century ago. The closed system has yielded place to the open system in which the source of education is now from formal, informal, and non-formal channels of information. It is therefore, believed now that the child's acquisition of knowledge from the formal source is upto 60 p.c., the other 40 p.c. coming from informal and non-formal sources. The information revolution of the last 2 to 3 decades in our country has spread even into the remotest corners though mass media, both audio and visual besides the printed media. As we proceed from the urban to the semi-urban to the rural areas the proportion of its impact varies. The cinema,

radio and the T.V. and video cassettes have now penetrated into the nook and corner of the country producing a perceptible alternation in consciousness. The formal education system in our country is hardly aware of its impact on the learning process of the child. This is the first major idea of net working in the system that educators and administrators have to reckon with in operating the system. The process of dissimination of knowledge derived from these sources is extremely powerful specially from the point of view of systemic change. The additional inputs from these sources are continously modifying the learning teaching stimulation. Children who are receiving this inputs are not only enriching their quantum of knowledge as output but also discovering heuristically the limitations of the formal system. The challenge to the teachers and administrators on account of this enrichment is formidable. Teachers who are not well qualified, whose interest in the expression of the stock of their knowledge is lacking, find themselves in a predicament in the operation of the system. This problem is specially acute in the realm of science and technology

where owing to the inputs from the informal/non-formal sources (parents, guardians, peer grous and media) the student in the rural/tribal areas is sometimes better informed than the teacher.

It is, however, the third aspect, the goals that are of crucial importance for our comprehension of the dimensions of education. The old NCERT handbooks were inadequate from this angle. Literacy, numeracy, techniracy, vocationalization (secondary stage) have been advocated but during the last four decades the most important goal, that of education for development seems to have eluded us in spite of the UNICEF Report by Ahmed and Coombs in the subject of Julius Nyrere's formal explication of the concept. On account of this failure we had introduced a concepts like SUPW which has proved to be a failure. It has neither promoted dignity of labour non any relevant productive skill. The failure can be understood from the bureacratic interpretation of all educational concepts - an interpretation that has seldom thought about or taken into active consideration the realistics at the ground level in our country. These

realities are that nearly 75 pc. people in our country live in rural areas, 58 p.c. of them being illiterate and therefore, unable to appreciate the importance or value of education as a tool for socio-economic change and development. Since this conception had been lacking or very weak until the latest NCERT Report on School Education in the 1990's, education has seldom responded to the life, needs and aspirations of the people in diverse geographical, economic, social and cultural situations. The over all effect of the system has been the growth of alienation. The child who has completed his primary education wants to migrate into urban areas for a better standard of life. He has no training or skill to be utlized for changing the local environment to make it more productive and fruitful for a better standard of life. Our policy makers usually drafted their policies in a rarefied atmosphere, prepared a system that is rigid, sequential and that only ends up at the secondary or textiary level by when the student has no goal to envisage for himself except a job that on account of the expanding population and sluggish economic growth is becoming harder and harder to get. It is here

that we have to radically alter our conception of the goal of school education (e.g. education as a total system). This alteration becomes necessary as we remember that in the foreseeable future as envisaged in the NCERT report on School Education in the 1990S and the CABE report 1992, if universalisation of primary education or the programme of Education for All succeeds, by the year 2000, we can at best hope to produce a child educated upto the primary level (6-11 or 14). That child with the quantum of information/knowledge acquired by him from the education system has to perform the following tasks.

a) Grow into adulthood

b) Earn a livelihood

c) Rear a family

d) Contribute to socio-economic ahange and productivity

e) Promote thecauses of democracy, socialistic pattern of society, secularism, social justice.

f) Be aware of the growing ecological problems

g) Promote moral and spiritual values for a higher quality of life

The NCERT Report, therefore, under its "Major recommendations" rightly stresses the importance of education for development. In that context item 4 is of crucial importance. Since the growth of elementary education is positively corelated with the expansion and utilization of infrastructure in other areas of economic and social development such as health, services, electrification, surface transport and communication facilities, serious efforts should be made by the government to involve relevant development sectors not only in the formulation and implementation of programmes related to univeralisation of elementary education, but for providing additional resources.

Unfortunately, however, this crucial point to make school education relevant to and meaningful for life has not been appreciated by the CABE which has failed to comprehend why the system has not yielded the expected result. It is a gap in the wave lengths of the participants and anyone who has participated in such meetings knows how ultimately it is the understanding of the bureaucracy that prevails over that of educationists, not to speak of politicians.

As against this if we look at the proceedings of the Kericho Conference (1968), the Accra Conference(1971), the Bellagio Conference (1972) and the Jomtien Conference (1990), we can see how we have failed to make elementary and secondary education relevant and development oriented precisely for which reason the children drop out form the system and wherever they continue, the aim is to follow the formal sequential system and go from one stage to another in a routine manner. The concept of neighbourhood schools can never be realised until there is a conceptual change as was successfully exhibited by the Gram Sikshan Mohims in Maharastra, the Karimnagar Project in Andhra Pradhan, the Kishore Bharati Project in Hoshangabad, the Bhumiadhar Project in U.P.. These models have to be altered for replication. The point to note here is the linkage between the community and the institution and the integration of diverse inputs of information.

If we analyse the educational scenario or system in our country we shall notice that education, both formal and non-formal is handled by departments like Agriculture, Health, Animal Husbandry, Forests, Mining and Geology, Community Development, Cultural Affairs, Tribal and

Harijan Welfare besides non-official agencies like CARE, Red Cross; Nehru Yuvak Kendras, UNICEF etc.. Each one of these departments has a programme of education or extension services, either formal or non-formal or both and may of them are meant for illiterate or semi-literate adults. On the other hand the Education Department is concerned with the education of children and adults mainly in a formal system. It is here that the importance of net working becomes very great. For making education (except the pre-school stage) relevant, to life, all the agencies are to interact with one another under a comprehensive plan which has to be built up from the micro-level. But even if an integrated plan is formulated its implementation poses a problem since the agencies which have a measure of vertical integration have very little horizontal integration.

As a result of this lack of coordination there is everlapsing, waste of time and money and over-all inefficiency in the system. The Master Controls of the agencies at work have little awareness of the over-all goals of education and development. Since the controlling athorities are different, a common goal is absent or even when

it is present the attitudes towards it differ so that the efficiency of the system goes down. We all know that in comparison with the government institutions or agencies their private counterparts perform better. That is due to better organization, supervision, direction and control. The example of the converting of the Adult Education Programme is there for all to see. In Kerala the success of the programme is mainly due to the efficiency of the non-governmental agencies like the Kerala Sahitya Parishad with an excellent track record left by dedicated, committed workers.

Keeping the existing scenario in developing countries in view the Jomtien Conference (1990) has laid stress on the improvement of managerial and technological capacities and on building partnership. A propos of the latter if anys:

> In designing the plan of action and creating a supportive policy environment for promoting basic education, maximum use of opportunities should be considered to expand existing collaborations and to bring together new partners e.g. family and community organisations, non-governmental and

other voluntary association, teachers' unions, other professional groups, employers, the media, political parties, co-operatives, universities, research institutions, religious bodies as well as education authorities and other government departments and services (labour, agriculture, health, information commerce, industry, defence etc.) The human and organisational resources that domestic partners represent need to be effectively mobilised to play their parts in implementing the plan of action. Partnerships at the community level and intermediate and national levels should be encouraged; they can help harmonise activities, utilise resources more effectively and mobilize additional financial and human resources where necessary.

Such a conception of education can be realised if we build net-working models at the Gram Panchayat levels by pooling the resources of all the agencies involved for optimal efficiency. The Panchayat level model will have to interact with higher levels, the Block, the District, the State and the Nation but the main thrust

of the programme will be at the Panchayat level where the school will have to be turned into a community centre for the acquisition and issemination of information from all available sources for both the children and adults. During the day it can be a formal school for children, in the evening it can be a community centre for adults. The execution of the programme will call for (i) net working or interaction in a literal sense and (ii) net working in a technical sense, that is the use of techniques like PERT/CPM/PPBS. At the state level too the same mechanism has to be operated and it can be done if a policy change is effected under which the Chief Minister becomes the Education Minister as well with the Chief Secretary as the Secretary responsible for inter-departmental coordination for education. It will also mean that the officials of the education department have to be trained in modern management techniques and capable of model building. At the state level Coperation Research would be called for. To promote a new managerial cultur, these technique ought to form a part of the teacher training programmes

or officers' training programmes. Whether at the Panchayat, Block or State level we have to develop this culture in order to attain optimal efficiency of the system. In the absence of suot a system it is only at the high level conferences that these sophisticated concepts are put forward and they are allowed to fall by the wayside when the stage of implementation arives. To make net working a living operational technique we need modernisation of our administrative system. Then only we can succeed in improving the quality of education.

TOWARDS A THEORY OF MEANING

Prof.Biswanath Roy

A. INTRODUCTION:

One of the most important problems of study in psychology and philosophy is the theory and concept of meaning. So far there happened to be no proper solution to this problem even when the psychologists started making joint efforts. Due to various antegonising view points the problem has become more complex and the solution further away. In some cases the problem has been presented lucidly but without any solution , e.g., why something is received as it is, or, is it that things appear in constant forms to every living being ? Koffka gisted the questions to ask, "Why do things look as they do?" The question, put by Koffka, was primarily concerned with the problems of perception: But later on, arrounding the problems of perception, ideas and opinions about theories of meaning received a renewed discussion. The sphere of knowledge in this area can be divided into three parts: (1) The purposes of he theories of perception (2) Development of language, meaning of words and sentences, (3) The objective of philosophy and the bases of Bool's (founder of Boolean Algebra) concept.

B. DISCUSSION OF THE THREE PARTS

1. The Purposes of the theories of Perception

Perception can be defined as a central mode of comprehension and expression of the various phenomena about and around the contents of Nature in general and human beings in particular.

Psychology has contributed the following important theories to explain the modes of various phenomena:
(a) 3D Theory of Feeling or core context theory by Titchener (b) Sensory Tonic Theory by Werner-Wapner (c) Cell Assembly Theory by Hebb (d) Motor Adjustment Theory by Freeman (e) Adaptation Level Theory by Helson (f) Hypothesis and Revival Set Theory by Bruner and Postman (g) Behaviour Theory by Hull (h) Gestalt Theory (i) Topological Field Theory by Lewin (j) Structure and Function Theory by Tolman (k) Probabilities and Transactional Functionalism by Brunswik, Helson and Ames (l) Directive State Theory by Bruner and Postman (m) Concept of Structure by F.H. Allport (n) Cybernetics (o) Freudian Psychoanalysis and Existential Psychoanalysis (p) Psychophysical Parallelism etc.

The above mentioned theories have be en developed centering around the subject of perception. Perception. Perception may be objective and subjective. The object part-constitutes that part of nature which is accessible to any of the different human senses.

The subject part constitutes mind and its functions, e.g., thinking, feeling. These two parts of perception are generally known as (1) World of Percepts (2) World of Concepts. These two worlds interact to give rise to perception, meaning and knowledge. Therefore, it can be assumed that meaning is also a product of the interaction between the above two. According to Koffka meaning "is the awareness of objects and conditions about and around us". But this awareness is also a product of the interaction between the structures of 'percepts' and 'concepts'. How it happens ? What are the nature of such structures ? Theories of perception have aimed to answer these questions. Thus aiming to interpret the meaning aspect as well.

2. Development of language, meaning of words and sentences.

Our percepts are analysed through our concepts. Generally the medium of language is used to analyse, record and express the concepts. But due to differences in uses, many problems have come up, e.g., the word 'simultaneous', i.e., what should be the extent and duration of the intervening time periods ? It may be anything between a second to an hour or any extent of time period that we may think of. But the condition is that the particular time period is to be repated at regular intervals, with some extent and duration. Similarly, the word 'independence' is also equally confusing. Living and non-living beings are

dependent upon each others for some form of worldly existence. Therefore, it is a matter of inter-dependence. But again how much of what controls this, baffles the social scientists. In reply we can say that this much of that (one second, minute, person etc.) is the controlling agent. But again the question will arise, what and how much is meant by one second etc. Then we say 'this is that much', involving some measurements. Again, for this purpose do we have a perfect yardstick ? Whether the extent of space expressed by a unit, say, 1 mm. or 1 "inch. is final or what is meant by 'one'. 'inch', 'millimeter' etc. ? But the fact is that when ever we utter one second, inch, kilo, litre or any such units of measurements, then we link up a quality to a quantity and vice versa. Again, quality and quantity are associated with the concept of continuum or a scale: As all these are related to space, time, person, object and subject, therefore, dependence upon Convertionism and Relativism, relativity becomes a must. Thus we find that language, word meaning, sentence, meaning are also influenced by Relativism, Converlionism and their interdependence.

But a word is a material object, because sound waves are being clustered and transfered to the letter symbols. This may be accepted on the ground that sound waves have some weights. Therefore, if any sound is a quantity, then its meaning becomes a quality. Therefore,

in case of word meanings, quantity-quality relationship is also involved. Only through qualifiers quantities can be expressed properly. Say, the word 'man' . Some say that one who is having the sense of prestige, can plan (quality), have a certain peculiar type of physique (quantity), can be named as 'man'. Insistences upon the menal strucures of the animals, along with the physical structures compelled to think of the psycho-physical parallalism. But if we say 'chair', only a particular type of physical structure may come to the mind instantly and no menal structure possibly. Do chairs have any mental structure ? I think there isn't. Verbal expression in general is limited to some of the living animal beings and it limits the discussion on meaning within them only. Again, due to differences in habitat, verbal expressions may have become different and have evolved the differences in scripts used by human beings. Development of physique is depended upon the habitat and ultimately, the physique determines the style of pronounciation. Due to the variations in accents to overcome difficulties in pronunciation, differences in scripts may have taken place. But how do we justify the number of letters in a language ? It can be said that the verbal expressions in general have been synchronised to the exact necessity, which determined the list of letters. But it definitely emphasises further amount of thinking and research to justify such lists of letters and their numbers.

Therefore, it may be presumed that the habitat, physique and the necessities of the time determine the structue of the script. Single or a combination of scripts give rise to words carrying a literal meaning in it. Through certain rules a comination of such words produce a sentence having another literal meaning.

In older days there were simple signs, e.g., ' ' indicating some direction or '+' meaning addition. So, we have found out that a chain of different symbols are being used by human beings. A word is a transport for the thought process. There can be two types of thinking: meaningless and meaningful. There are some words which are clearly meaningful, e.g., book, wife, rice. And there are words, which are either meaningless or the meanings are controversial, viz, democracy, intelligence, news, relationship etc. The same may happen in case of sentence meaning, e.g., the sentence, 'the room has four walls', clearly means the shape of the room. But if it said, 'in a country where normal and healthy children do not get propr education thes should not be any expenditure for the crippled or the blind ones', it will yield a lot of arguements, thus the meaning contents of the words can be divided into two parts: (i) having direct meaning (ii) having indirect meaning. Book, wife rice, etc. will fall under the first and democracy, intelligence etc. under the second category. A halfhazard collection of

some words cannot produce a meaningful sentence. Therefore, some rules have been framed so as to create some meaning in the sentences. But there may be two types of sentences: (1) Real sentences, in which emotions are available, e.g., 'Did go to the school ? or 'Switch off the light' etc. (2) Pseudo-sentence in which emotions are not available, e.g. 'Combined length of the two sides of a triangle is longer than the length of the third side' or Hospitals have doctors etc. Such sentences are connected with one another to develop ideas to frame a story. But at times many of the barriers prevent such a work out. The main barriers are: (1) Tautology, or needless repetition of facts e.g., xyz, in other words, zyx. (2) Begginig questions: e.g., : One who follows a routined life is either a religious man or a scientist (3) Argumentum ad Hominem: e.g., An electrician cannot comment upon the works of a carpenter (4) Genetic fallacy : e.g., Is it that personal likes or dislikes are due to personal faults or perfections ? (5) False analogy: e.g., That small children need training like small animals. (6) Coincidence: e.g., This essay is not good, because passive voice has been used as before (7) Argument from ignorance: e.g., It is a matter of argument how much a child of 5 years age can learn but it cannot be said that they cannot learn anything (8) Argument from Authority e.g., A Psychoanalyst can cure mental illness. (9) Appeal to sentiment: e.g., Eating beef

by a Hindu is a sin (10) Improper conversion e.g., Artists are emotional, therefore, all emotionals are artists.

Again to build up certainideas some definite grounds are necessary for preparation (1) Biological maturity: A little boy cannot carry a heavy load (2) Previous learning: Without practice geometrical problems cannot be solved. (3) Experience: If practice is continued such problems can be solved easily. (4) Readiness: One who is not ready to understand something cannot be made to understand that. (5) Motivation: If one is motivated he can understand things easily. These points are considered to be relevant in building up the meaning content of perception, meaning and knowledge. (Kneller,G.F., 1966).

On those grounds the objectives of philosophy have also changed to interpret the concept of meaning.

3. The objectives of philosophy and the bases of Bool's concept:

Philosophically to understand the theory of meaning, formal and informal and informal analyses are in practice. Russel and Whitehead (Principia Mathematica), Moore (A Defence of Commonsense,) Wittgenstien (Philosophical Investigations), have influenced these two processes much more. In addition, Gilbert Ryle ('Categories', Dilemas', 'The Concept of mind etc:), Rudolf Carnap (Paul Arther Sylp (Ed)in reply to the question of

P.F. Strawson: The Philosophy of Rudolf Carnap),Frederick Weissman (The Resource of Language. The Importance of Language.' Ed. Max Black), Grover Maxwell and Herbert Fiesel (Why Oridinary Language Needs Reforming: The J.of Phil., LVII (18)1961, 499-501) etc., have made significant contributions. But Gotlob Frege, first advocated the necessity for a change in the languages, failing to explain kk in language what is 1 or 2 etc. ?

The transitional view points of Wittgen stien are interestnig. At first in his, 'Tractatus logico-philosophicus' hesaid: The object of philosophy is the logical clarification of thoughts. Philosophy is not a theory but an activity. A philosophical work consists essentially of elucidation. The results of philosophy is not a number of philosophical propositions' but to make propositions clear. Philosophy should be clear and delimit sharply the thoughts which otherwise are, as it were, opaque .. and blurred" (pp.77), But later in 'Philosophical Investigations' (Trans, G.E.M. Anscombe) hesaid, "A philosophical problem has theform: 'I don't know my way about' philosophy may in no way interfere with the actual use offere with the language; it can in the end only describe it. For, it cannot give it any foundation either. It learns every thing as it is".

Thus, according to Wittgenstein meaning can only be described through the logical clarification of thought process. The language concept depends upon variables which are of two types: The universal and the existential-which interact to give rise to the meaning in words and sentences. But according to Bool, every meaning can be categorised into two parts: True and False, i.e., we cannot say 'it is raining and an uncovered earth is not getting wet. 'When it will rain, the uncovered earth will also get wet. The relationships between the incident and the incidentals establish the truth-falsity of the meaning. Hence, Bool's idea is to be accepted only as an extreme point of view. In that case Bool's idea is more based upon the sentence meaning, which is further based upon the word meanings.Say, the meaning of the word 'man' is subject to some conventional ideas carried through ages. But when we say 'man is the most intelligent animal; meaning of which is some what correct and agreeable although the meaning depends upon the interpretation of the terms: man, intelligent, animal etc: Therefore, Bool's idea is only applicable in case of sentence meaning. Therefore, the objectives of philosophy aim at the construction of separate sets of languages for attaining a clearer picture of the meaning content of the concepts. Language interprets the meaning content of perception. Here Bool's ideas may help us to trace the truth-falsity of statement as functions of language.

Acharya Ramendra Sunder Trivedi has given an interesting picture of it.

(c) Summing up to understand Acharya Trivedi's View points.

From the above discussions, from the standpoints of psychology and philosophy it appears that fundamentally, they have shown a gradual inclination toward the uses of symbols. In facet, it is nothing unexpected or unnatural due to the individualistic influences in the thought process. If the individual is considered to be an isolated, single person then such results are inevitable. But the uses of languages are not singularly own properties, but a collective one. In this connection we need to go back to an old question: why do we use language ?

In addition to a reply made earlier it can be further said that everybody wishes to express his thoughts, ideas, emotions, feelings, which become a part of the 'Expressed World', otherwise, continues to remain as a part of the 'Unexpressed World'. All the time, in things, matters, man and others, something is always brought to expression while many things remain unexpressed. In fact, the aims of human thinking is to expose and findout an expression of the unexpressed world. But then one is to take help of the expressed world. At least, Science is following this way. Then there are Physical and Biological parts in the expressed world. The physical

part contains the non-living materials, whereas the biological world contains the coexistence of body and mind. The trees, the unicellulars, multicellulars, vertibrates, non-vertibrates, have minds peculiar to them, with regard to the different states of it. Somewhere, influence of unconscious is heavier or somewhere else it is not so much so, but quite conscious. While the unexpressed world being fully in the unknown unconscious, is keeping a good balance with the conscious or the expressed part of it. And man has kept himself busy with series of questions, viz., how the things originated ? Where from they originated ? Why they originated ? When they originated ? etc. Most surprisingly, only human beings are thoughtful about these questions. Because they can think which is manifested in their controversial ideas. But they maintain some conventions to manifest the thought contents. At this point I am remembeing what Acharya Ramendra Sunder Trivedi said: (Triumph of knowledge, Bharatbarsha: a Bengali Monthly, Shravana; 1324 Bengali Saka):

"The world of speech is of no single man's world. This world belongs to the mean man. The mean man is the average of the crores of men. Speech is a medium of communication and the percepts of one man maintains a balance with the other. That is why, one is to tell his experiences to others and know the same from others.

Such concepts are labelled with name or words which gave rise to the language. ... Man is mainly a rational animal and that is why he cannot be won over. By virtue of this intellect man develops concepts out of the percepts which are labelled with some indicators or words giving rise to some artificial meanings, through which percepts are intercommunicated. Thus percepts are transmitted through a systematised convention of words, which guides the intellect of the man as well as his duties".

Again in (Sahitya Parisat Patrika, No. 2, 1301, B.S.) he says: 'Language is for letting you know my feelings. Words constitute the body and meaning the life of language . There lies a relationship between a word and its meaning, where word is an indicator or symbol. Life goes on smoothly and the aims of the languages are also properly served, if all of us will use them properly through unidirectional meanings. But it seems that a language could be complete only when men could express each of their feelings through one and one word only: That is why, within limited amount of words or symbols, a huge number of feelings are required to be expressed. Here lies the poverty of the languages. Some tricks are adopted to avert this limitation: If five feelings are fooound very close to each other. We use one word, ornamented by others(good, v.good). At times it become insufficient also. So,

forcibly, one word is used for different meanings. Again at times different words are used for the same feeling. This indicates the wealth of the languages. If these were not there, may be there would have been shortage of ornamentation of the language but more bonny and fleshy".

Whether a word will be meaningful or not, Acharya Trivedi's comments are enough to say about it. But education and the way of upbringing of the individual let one know the variations in meaning.

(d) Towards the theory:

Words have been developed out of individual and social necessities. One by one individuals conglomerate and give rise to a society. That society, maintains and follows certain rules and regulations, i.e., social controls. These rules, regulations or controls receive acceptance from every body, socially and ethically. But, through the passage of the years, society develops and improves the social relationships which ultimately proves that men and other beings move through the different dimensions of interdependency. Man created society out of his own needs, and such a need imbibed them to transform verbal expression into words, if not for anything else but to avoid breach of trust: As the writing grew more valuable than hearing or speaking,

changes took place much more intensively. So, the language or use of it, is not personal or individual in nature. The individual determines meaning of the goal of his life through his needs, moods, wishes or mental sets, those which are further depended upon the social conditions. In this way the individual develops the meanings of the words, by placing emphasis upon the relationships between himself and the society. His relationship is relatively and conventionally developed between the individuals, needs, moods, wishes etc. and the social controls.

Therefore, meaning becomes a function of the socially convened concepts say, by the word 'Man', a particular type of living being is meant. But this being has different varieties. This being known as 'man' irrespective of other varieties, is a product of many variables having characteristic dimensions in each case. The percept is built up through such and other contributing variables. These variables have different dimensions of their own also. Therefore, the word 'man' would mean an intersecting point of n number of variables having n dimensions each. The common intersecting point produces a space which can be said as the meaning of the percept. So a particular meaning involves a particular amounts of space, which gets developed at the common interesecting

points of the n number of variables having n dimension each. But at times and places these variables and their dimensions undergo certaincontrols. Such limited or controlled number of variables having limited meanings, e.g., the races (yellow, black, white etc.). The amount of space that develops around the intersection point, produces the specified meaning. The measure of the space is a measure of the extensity of the space actually created by it.

Such spaces are assigned with some symbols or socially convened concepts for communication. The world of speech is one of them. It belongs to the mean man. It serves his needs, moods, wishes and desire. It accelarates affluent understanding and interdependence in society.

But within this bigger 'world' several other 'worlds' have cropped up during the course of social evolution. Different language also have come up containing words, meaning diversified concepts. Philosophy, therefore aimed at very rightly to prepare a rigid frame or set of words. They intend to analyse the available languages and produce comprehensive lists of words. These lists will be available for particular branches of thinking (history, physics etc.) and no overlapping or streeching of the concepts of those

words will be possible anymore. Thus the concepts around percepts will be able to build up much more independently. Objects of perception will be one concept . But this is far fatched thing if not impossible as well. Otherwise the fragmented parts of the mean man's world could not have continued to exert periferal influences over the meaning contents of the world of speech. If the person will go on placing emphasis upon the relationships between himself and the society, he will continued to develop meaning contents of his percepts and concepts through such relationships only.

If it is considered that the concept of the 'individual' is also one of such points of interection of n number of variables having n dimension each, then the existence of the individual and the existence of meaning become identical in origin. Thus the individual becomes percept and concept, object and subject, quantity and quality, structure and function of meaning. Briefly, he is the meaning of all meanings.